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FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

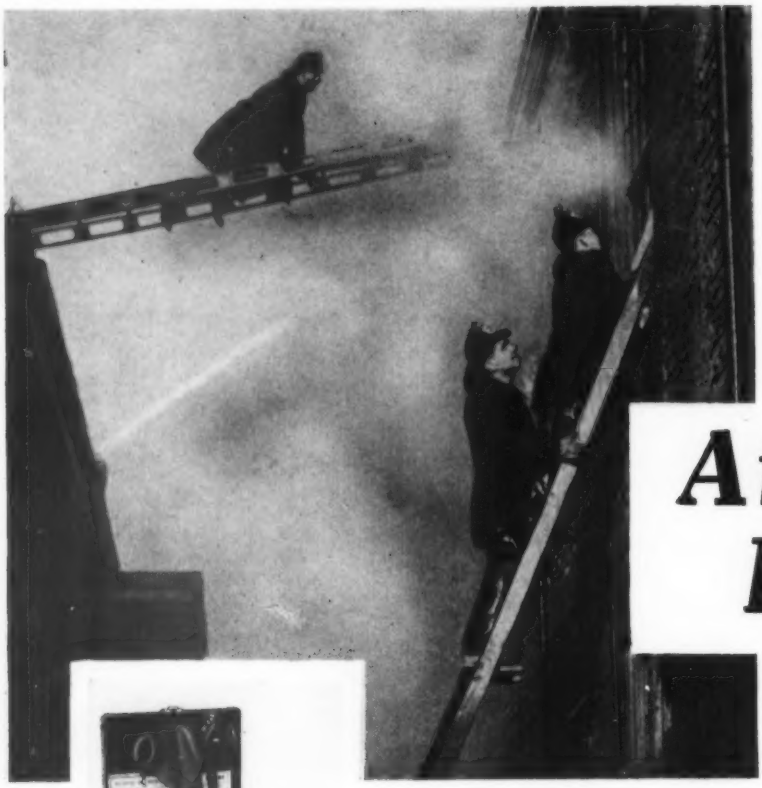
Member

OCTOBER, 1944

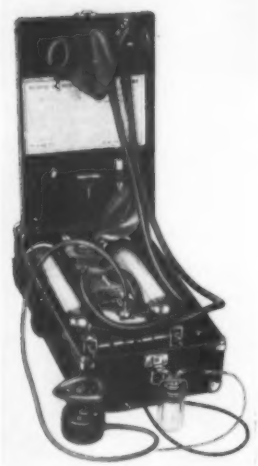
Vol. 97, No. 10

Another Hotel Fire. This One Was at Anniston, Ala.

A CASE - SHEPPERD - MANN PUBLICATION



After the Rescue- What?



The

EMERSON RESUSCITATOR

A Vital Necessity for Smoke Asphyxia—

After rescues from smoke filled rooms, the Emerson Resuscitator has played a vitally important part in bringing back to normal smoke suffocation victims. Whenever shock, drowning, gas, smoke or other forms of asphyxia are encountered be sure you have dependable, and thoroughly dependable, equipment to respond with. Many of our best fire departments have standardized on Emerson Resuscitators after thorough investigation.

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POWER—

IN APPARATUS AND IN SIRENS

A large, powerful, deep tone FEDERAL Siren with oscillating light.

Unfailing power, and reserve power, are necessary in fire fighting apparatus *and also in sirens.* That is why FEDERAL Sirens are preferred by so many cities and towns. They are backed by 40 years of sound research and engineering. They are ruggedly constructed to give long and unfailing service, and their tone roar is unusually powerful, giving effective safety signals far ahead of fast moving apparatus.

There is an impressive variety of FEDERAL Sirens from which to choose—sirens with flashing red light, or with oscillating red light—sirens of the long roll, coaster, and double coaster types—sirens that combine visible and audible warning signals—sirens that have real stamina and power.

ARMY E NAVY

WRITE TODAY FOR BULLETINS

FEDERAL ELECTRIC CO., INC.

SIREN HEADQUARTERS

8702 So. State Street Chicago 19, Illinois

FIRE ENGINEERING

A Consolidation of Fire and Water Engineering, The Fire Engineer and Fire Protection

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FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

Permanent 'Waves'?

FORMERLY the fire service had to divide its "short-wave" radio with the police. Now, cities of 150,000 and over are permitted to operate their own short-wave stations. And already a number of them are preparing to apply to the FCC for station licenses. Millions of dollars will be spent in this group of cities alone, in the next year or two, for improved communication facilities, both wire and radio.

● FIRE ENGINEERING is proud to have carried the torch for independent two-way radio communication facilities for the fire service, just as it has continually preached improvements in the wire communications systems that have been the backbone of the fire service for so many years.

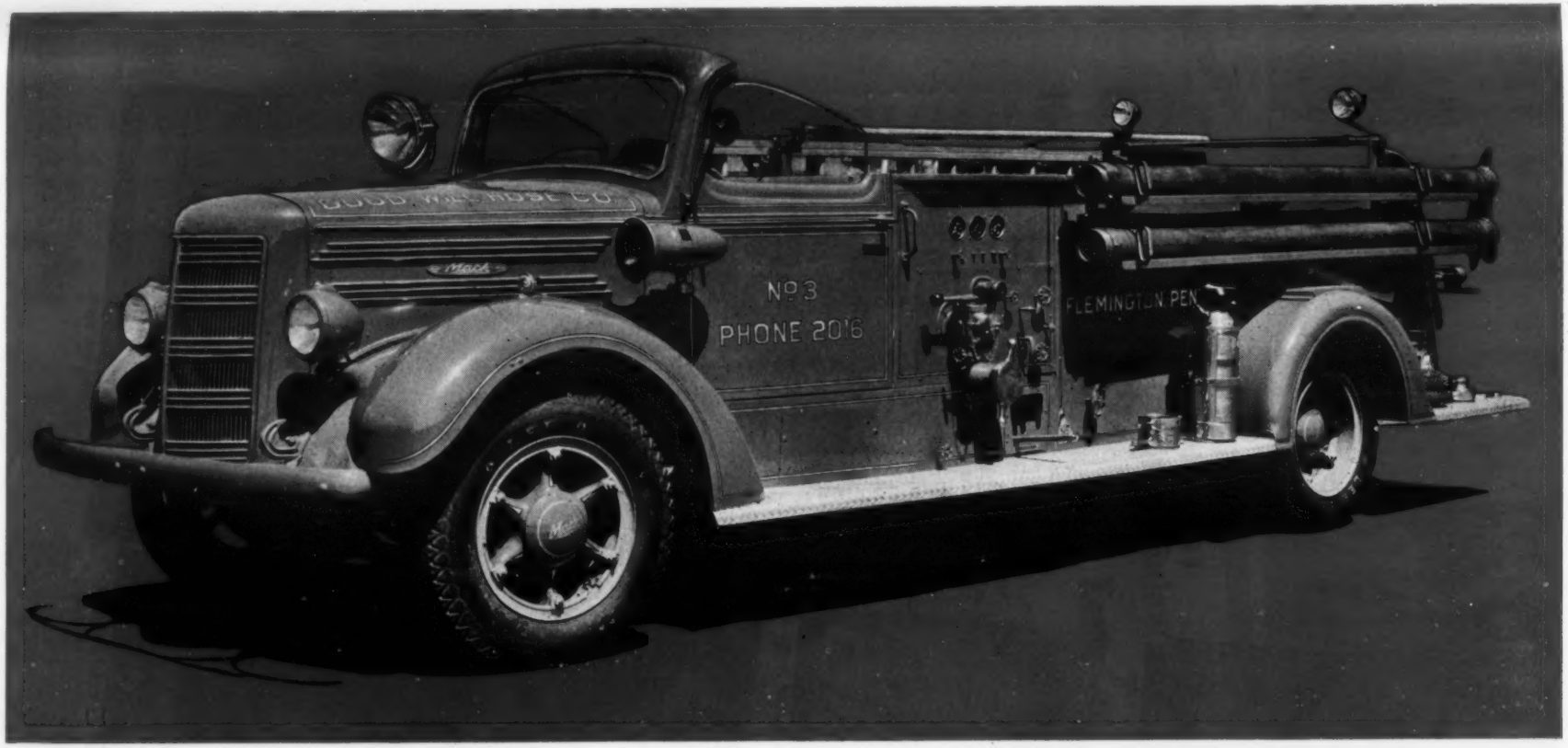
● Whether you are subscriber or advertiser, you can depend upon FIRE ENGINEERING to "maintain communications" with those whose business it is to create, purchase and operate modern fire service communications.

The Publishers

FIRE ENGINEERING

The Journal of the Fire Profession since 1877; published on the fifteenth of each month by Case-Shepperd-Mann Publishing Corp., 24 West 40th St., New York 18, N. Y., also publishers of *Water Works Engineering, Sewage Works Engineering*, etc. ¶Subscription price U. S. and Latin America, $2.50 a year; Canada, $3; Foreign, $3.50; Single copies, 25c. ¶Member of Audit Bureau of Circulations and Associated Business Papers, Inc. ¶Entered as second-class matter April 15, 1929, at the Post Office at New York, N. Y., under Act of March 3, 1879. ¶Contents of this issue copyrighted, 1944, by Case-Shepperd-Mann Publishing Corp. President and Advertising Director, KARL M. MANN; Vice-President and General Manager, I. HERBERT CASE; Secretary and Editorial Director, FRED SHEPPERD; Assistant Advertising Director, WALTER H. FREDRICKS; Advertising Manager, WILLIAM J. GIBSON; Circulation Manager, W. H. TOPHAM. CHICAGO OFFICE: W. S. CLEVENGER and L. M. ROCHE, 6 No. Michigan Ave., Chicago 2, Ill.; SAN FRANCISCO: CHARLES H. WOOLLEY, 605 Market Street, San Francisco 5, Calif.; LOS ANGELES: AUGUST HAURIN, 6000 Miramonte Blvd., Los Angeles 1, Calif. ¶Printed in U. S. A.

A CASE-SHEPPERD-MANN PUBLICATION
"Specialized Leadership"



Since 1911, the name "Mack" has meant dependable fire apparatus . . . built to get to a fire fast and put it out quickly. Mack's reputation for dependability where dependability counts most is one big reason why the Flemington, Pa., Fire Department chose a Mack Type 45 Pumper. Mack's handling ease and ability to take punishment and keep on pumping water is another. Firemen in Flemington and all over America know you can't beat a Mack!

ARMY E NAVY

IF YOU'VE GOT A MACK, YOU'RE LUCKY . . . IF YOU PLAN TO GET ONE, YOU'RE WISE!

Mack
FIRE APPARATUS

If your community needs additional fire-fighting equipment or replacements, think of Mack. Remember, Mack Fire Apparatus is backed by the greatest engineering resources in the industry.

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FMC HIGH-PRESSURE FOG PROVED IN ACTUAL FIRE FIGHTING

BUNGALOW FIRES

FMC HIGH-PRESSURE FOG HANDLES ALL TYPES OF FIRES

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BUILDERS OF BEAN HIGH-PRESSURE

PROPERTY ACTUALLY ON FIRE SAVED BY KENT COUNTY FIRE DEPT. $226,985.00

Fire Losses Reduced 'Way Below Average by FMC High-Pressure Fire Trucks in Kent County, Michigan

Look at the record! In the past year the Kent County organization made 201 rural runs with FMC High-Pressure Fog Fire Fighters. Property on fire saved — $226,985.00 — besides the thousands of dollars of exposed property saved. Total losses just 11 — only a fraction of the rural average.

The report shows, beyond the question of a doubt, that a volunteer fire organization — equipped with FMC High-Pressure Fog Fire Fighters — can handle all types of fires.

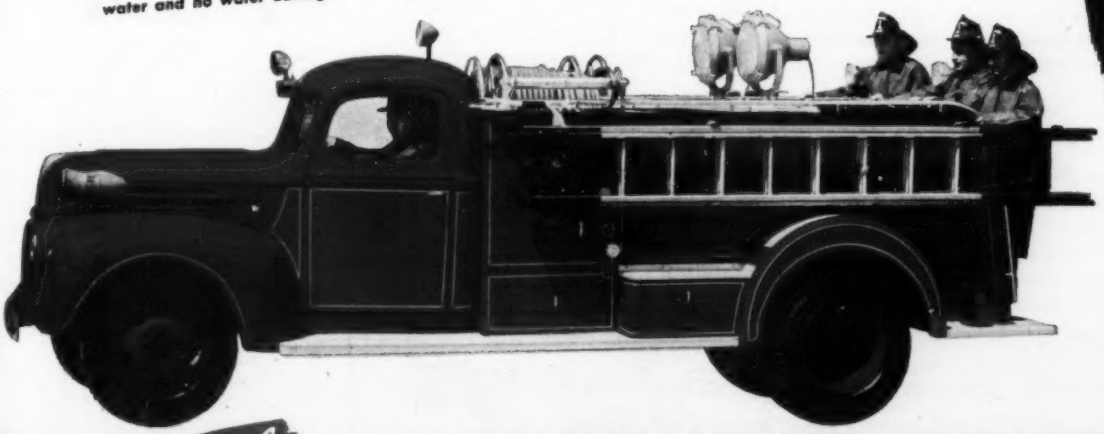
It's the 600 lb. gun pressure! FMC High Velocity and Finely Atomized Water! Just what you need to *blast, cool* and *smother* flame!

One gallon of this finely-atomized water fog, properly used, has the fire-quenching possibilities of many times that of low-pressure water. But remember — *only* the FMC High-Pressure Fog Fire Fighter packs the needed punch to produce and maintain 800 lbs. pump pressure — 600 lbs. nozzle pressure. No experimenting to be done by you because of unproved new ideas.

Get the facts about this new and revolutionary fire-fighting technique. Get ready to modernize — now!

Insist upon 600 lbs. gun pressure to get the multiple efficiency with small amount of water and no water damage.

STANDARD FMC FOG FIRE FIGHTER. A self-contained fire-fighting unit. Carries its own water supply and complete fire-fighting equipment. Provides two guns of 30 gallons each at 600 lbs. nozzle pressure. These guns proven for years in actual fire fighting.



FMC *Original* HIGH-PRESSURE FOG FIRE FIGHTER

CAN BE MOUNTED ON MOST STANDARD TRUCK CHASSIS

FOOD MACHINERY CORPORATION

JOHN BEAN MFG. CO., 709 HAZEL ST., LANSING 4, MICH. • BEAN-CUTLER DIVISION, 409 JULIAN ST., SAN JOSE, CALIF.

PUMPS FOR OVER SIXTY YEARS

Navy Fire Fighters use WaterFOG

WaterFOG is one of the new devices used by the Navy in its training schools for fire fighters. High velocity WaterFOG discharged from an SG-40 WaterFOG nozzle shielded these Navy Fire Fighters and quickly extinguished this raging oil fire.

High velocity WaterFOG from an approved SG-40 nozzle designed for the U. S. Navy by Rockwood Sprinkler Company.

* * *

Hundreds of industrial plants also have WaterFOG equipment,—both fixed piping installations and nozzles for hose lines.

What is WaterFOG?

WaterFOG is man-made fog, created by impinging streams of water from specially-designed Rockwood nozzles. It is particularly effective on oil fires, because of its great heat-absorbing area (much greater than in solid stream or spray) and its floating action.

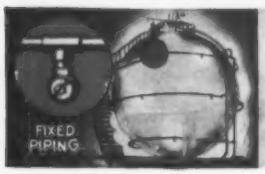
Instead of plunging quickly through the flame into the liquid, thus increasing vaporization — WaterFOG drifts gently into the combustion area, cooling both the burning vapors and the liquid surface, and then changing into steam, cuts off oxygen supply.

Many firms have given up more expensive, less certain fire-fighting methods to return to water. WaterFOG, economical, plentiful, prevents "flashback", saves costly chemicals, lessens water damage and is a non-conductor. Rockwood installations are approved by Underwriters' Laboratories and Factory Mutuals. Write for bulletin 123.

ROCKWOOD SPRINKLER COMPANY
54 Harlow Street, Worcester 5, Mass.
Specialists in Fire Protection Engineering, Equipment and Installation since 1907

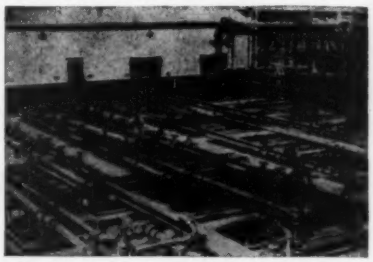
ROCKWOOD WaterFOG

Water Engineered by Rockwood Cools, Confines, Smothers Oil Fires



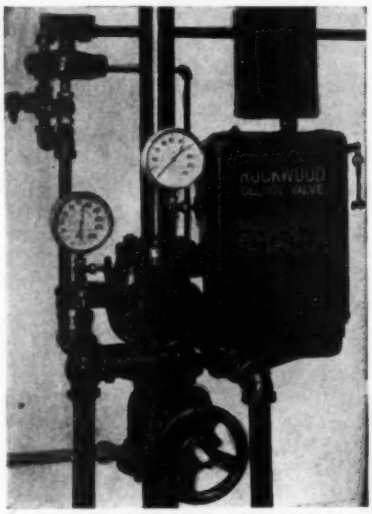
WaterFOG Installation Guards Refinery's Nerve Center

Vital and expensive equipment can be saved from the ravages of flammable liquid fires when a WaterFOG system of fixed piping is posted on guard.



For example, the manifold pits shown in the picture are protected by a WaterFOG system controlled by the Rockwood Dualguard Automatic Control.

Rockwood Dualguard Automatic Control



For fixed piping installations. Deluge Valves supply water to the WaterFOG system when automatic equipment detects fire.

Complete fire-protection effectiveness of a WaterFOG system depends upon proper engineering. Such factors as proper spacing of heads, distance between heads and hazards, etc. are important in determining correct particle size, fog pattern and velocity.

For this reason fixed piping installations should be engineered and installed by Rockwood engineers, who are authorities on hydraulics as applied to fire protection.

Typical WaterFOG Applications

- quench and dip tanks
- paint shops
- transformers
- oil switches
- dryers
- oil storage

etc.

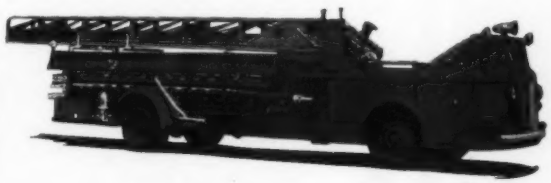
COLORED MOVIE! Executives of firms having flammable liquid hazards are invited to write for a colored movie (16 mm.) showing tests of Rockwood WaterFOG.

Rockwood Sprinkler Company, Worcester 5, Massachusetts.

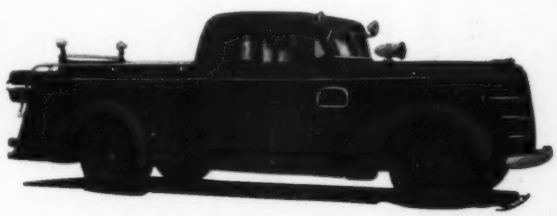
MINUTES COUNT..

IN GETTING TO A FIRE

AMERICAN-LA FRANCE*



65 FT.-100 FT. 4-WHEEL AERIAL TRUCKS



750 G.P.M.-1250 G.P.M. MODERN PUMPERS

Fire engines have proven their dependability in the fire service to meet every emergency requirement. V-12 engines provide that easy starting, quick accelerating, and smooth flow of power with ample reserve so necessary for long life with low maintenance cost. The ability to accelerate quickly in traffic means safety for the men on the apparatus and assurance that the fire will be reached in a minimum of time without risking an accident. American-LaFrance factory-built fire engines and aerial ladder trucks assure you of that dependable performance. Specify American-LaFrance for safety.

* LA FRANCE-FOAMITE in Canada

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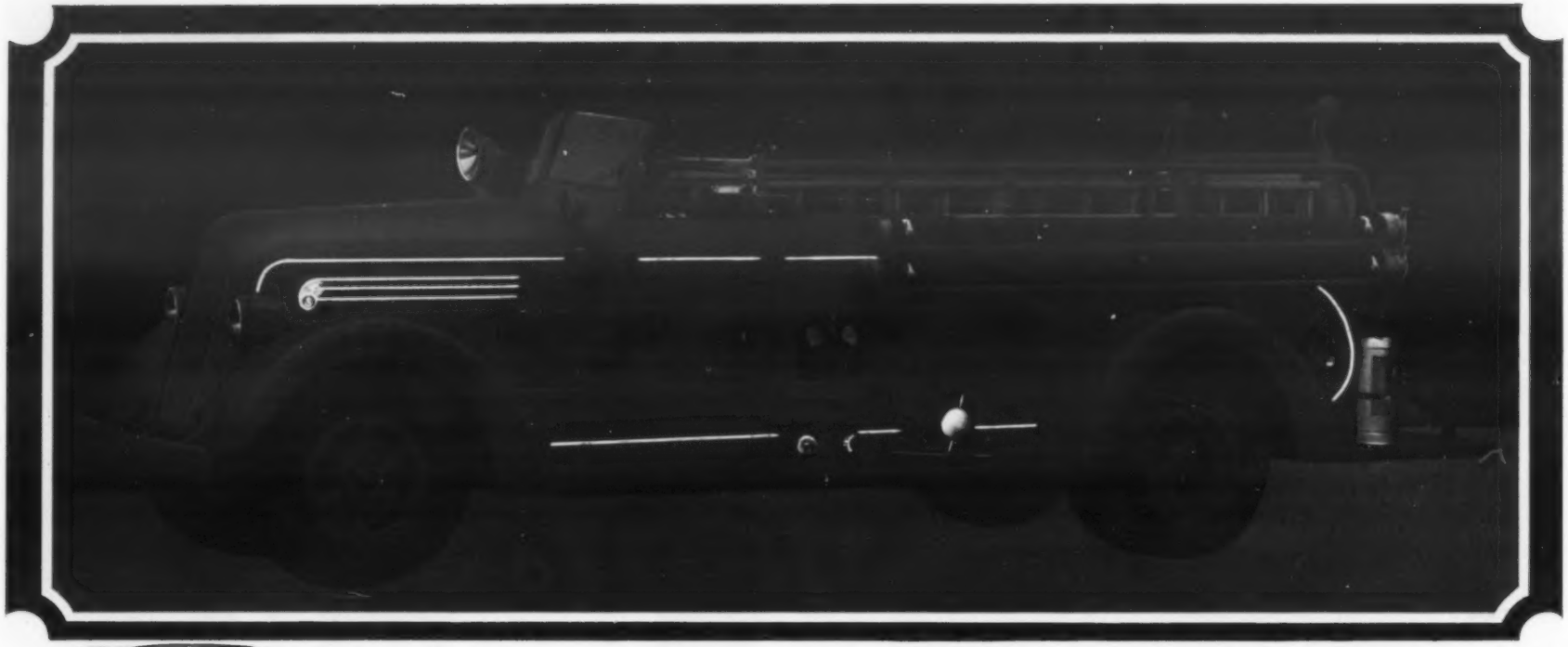

THE FAMOUS SEAGRAVE PUMPING ENGINE

Seagrave

THE GREATEST NAME IN FIRE APPARATUS

Made in capacities of from 500 gallons to 1250 gallons per minute . . . Powered with the dependable Seagrave motor built by Seagrave exclusively for fire apparatus.

If you want safety, mechanical perfection and trouble-free performance then specify Seagrave.

THE SEAGRAVE CORPORATION
COLUMBUS, OHIO
Bickle-Seagrave, Ltd., Woodstock, Ont.

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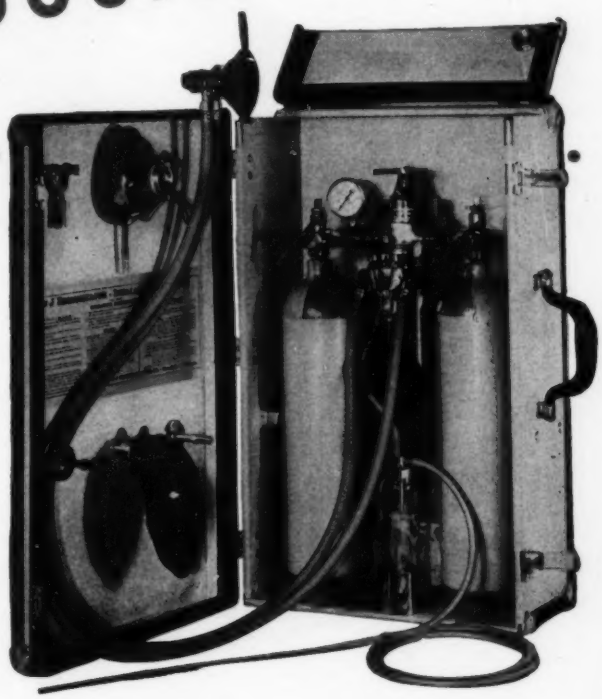
In complicated cases of Asphyxia *there is no question* what to do if you have an

E&J RESUSCITATOR



ASPHYXIA accompanied by Severe Burns, Fractured Ribs, Internal Injuries or Pregnancy is no obstacle to the saving of the patient's life when you are prepared to administer artificial respiration without bodily pressure.

The E & J Resuscitator is a combination automatic breathing machine for treating non-breathing patients, an Inhalator for supplying Oxygen or Carbon-Dioxide-Oxygen to patients breathing through their own efforts and an Aspirator for removal of obstructions from the air passages.

Any one of these important phases is extremely Simple to operate and Foolproof. The Safety and Effectiveness of the E & J Resuscitator has been proven beyond any doubt by its successful application in thousands of desperate cases of Asphyxia. It was accepted for use by laymen by the Council on Physical Therapy of the American Medical Association after five years of intensive research and investigation by that organization.

No first aid service is complete unless prepared to administer artificial respiration mechanically. And the best answer to that is the dependable E & J—enthusiastically preferred the country over by leading Fire Departments, Hospitals, Industrial Establishments and wherever else first aid work is at its best.

We'll be glad to tell you more about the many advantages of the modern E & J. Write any of our distributors listed below.

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THE PIONEERS & SPECIALISTS IN MECHANICAL ARTIFICIAL RESPIRATION

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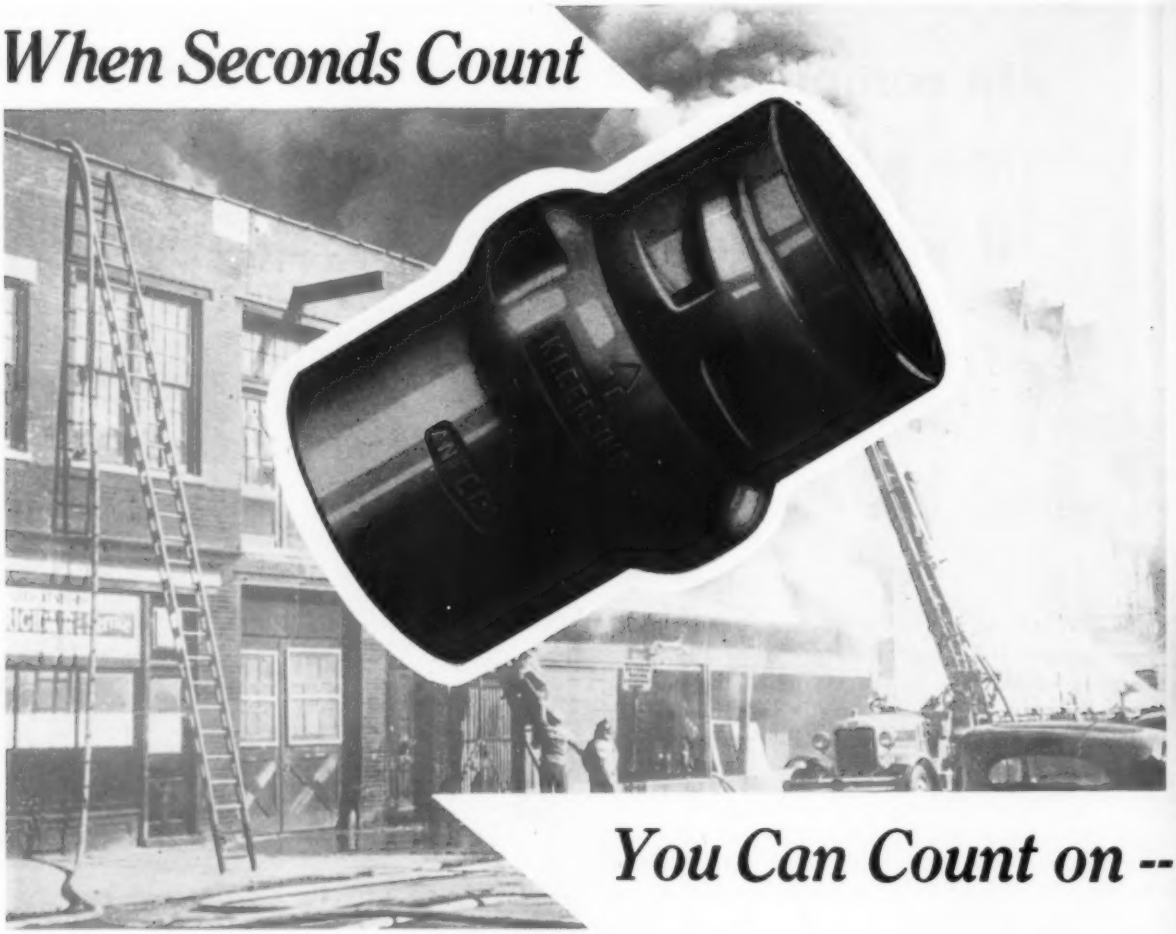
When Seconds Count



You Can Count on --

KLEERLINE COUPLINGS

Get in touch with your Local Dealer—or write us for Data

1. They're streamlined for SPEED in coupling up and handling. No protruding lugs to catch on ladders, curbs or other obstructions; nothing to wear holes in stacked hose.
2. Designed to retain original shape under rough usage without wearing to a sharp edge.

JUST TWO OF MANY GOOD REASONS WHY FIRE CHIEFS WILL *MODERNIZE* BY *STANDARDIZING* ON KLEERLINE COUPLINGS.

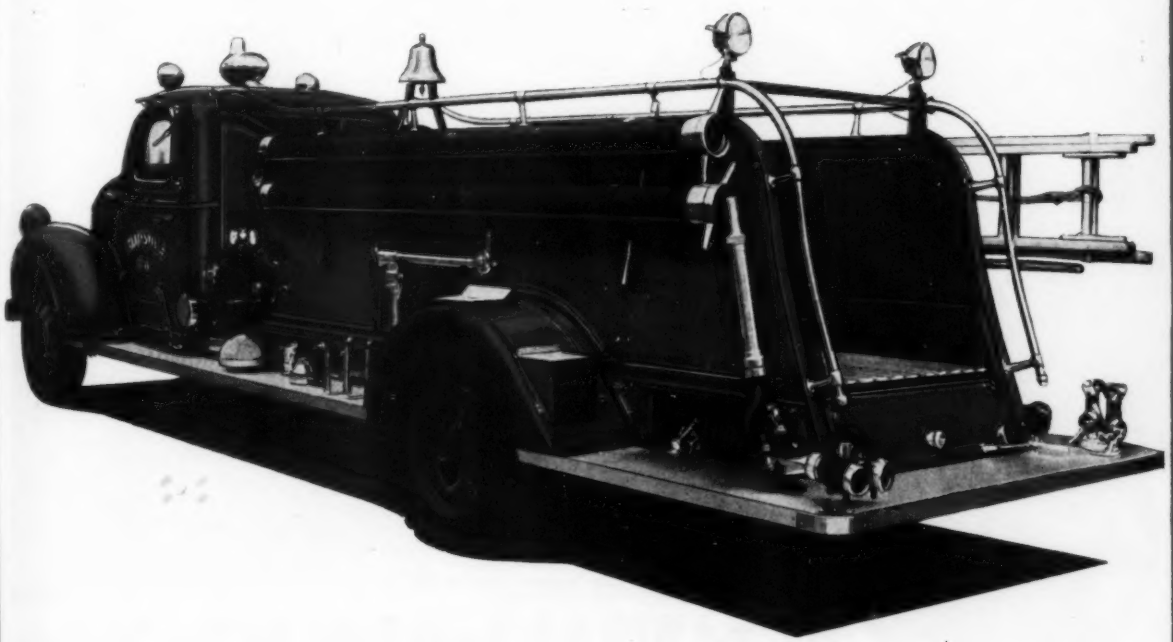
FASTER
STREAMLINED
BETTER
MODERN DESIGN

ANDERSON FIRE-FIGHTING
EQUIPMENT COMPANY, INC.
407 WEST 36th STREET NEW YORK 18, N. Y.

FIRE APPARATUS — *CUSTOM-BUILT*

By

OREN



Triple Combination Pumper consisting of 500 G.P.M. Hale Centrifugal Pump, Single-Stage with maximum pressure up to 300 pounds, and 400 gallon well-baffled booster tank with two 150′ capacity booster reels mounted on each side at rear of rear fenders. Mounted on Dodge chassis and used at Statesville, N. C.

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The Individual Needs of the Community

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★ The FIREMEN design it— **OREN** Builds It. Write for information. ★

OREN FIRE APPARATUS COMPANY

The South's Only Fire Truck Manufacturer!

Roanoke, Virginia

NOW Your Fire Department can have its own Motorola Radiotelephone System

Fire Alarm Headquarters, Boston, Mass.
Supt. A. L. O'Banion. Chief Operator J. E. Laughlin.
Radio Supervisor J. E. McCarron.

FCC and WPB O-K 3-way Radio for Fire Stations

Fire departments serving over 150,000 people are now being licensed by the FCC to operate their own radio stations. Your Fire Department may now have its own license and operate on its own wave length distinct from that of the Police.

ANOTHER MOTOROLA FIRST

Boston Fire Department Radio System

The Fire Department of Boston, Massachusetts, is now operating its own radio station, WEY, consisting of one central control station and 33 mobile units. This means that the Fire Chief at Fire Alarm Headquarters is in instant touch by radiotelephone with his Division and District Chiefs whose cars are equipped with Motorola F-M two way radiotelephone units.

This is another notable Motorola Radio *First* in addition to the famous "Handie Talkie," an exclusive development of Motorola engineers, now being used by our front line infantry.

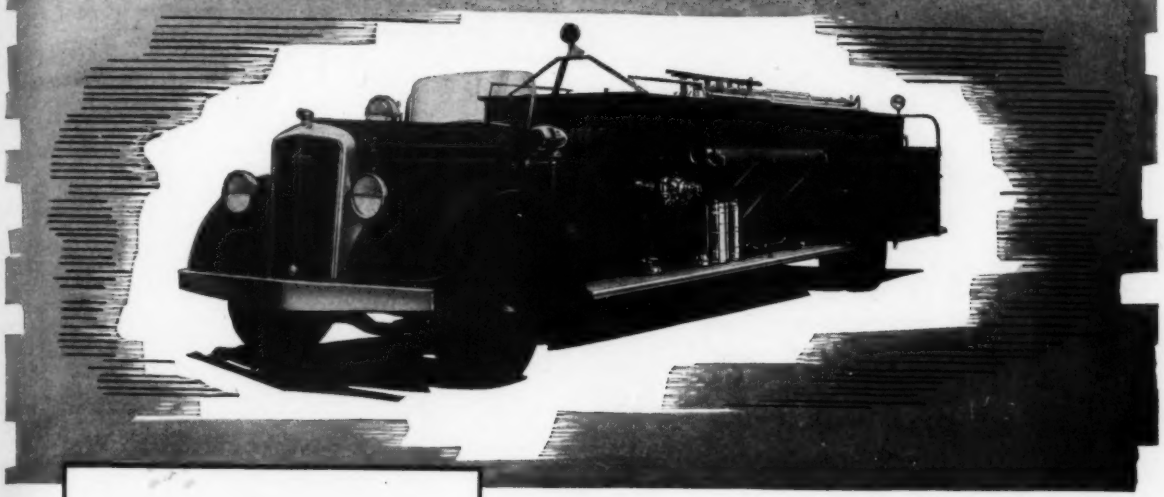
The Motorola "Handie Talkie" will be available for Emergency, Fire and Police use as soon as obligations to the armed forces have been completely fulfilled. In the meantime, you can get started on the radiotelephone system for your fire department.

WRITE *today for full details*

GALVIN MFG. CORPORATION · CHICAGO 51

We shall appreciate your mentioning FIRE ENGINEERING *when writing advertisers*

FIRE "DEPARTMENT" for Minneapolis



WARD LAFRANCE

1000 G. P. M.
QUADRUPLE

Overall Length: 35 ft.

Weight—Empty: 22,000 lbs.

Cylinders: 6

Wheelbase: 274 in.

Horsepower: 200

Pump: 1000 G. P. M.

Hose Capacity: 1100 ft. 2½ in.
600 ft. 3½ in.
400 ft. 1½ in.

Booster Tank: 100 gals.

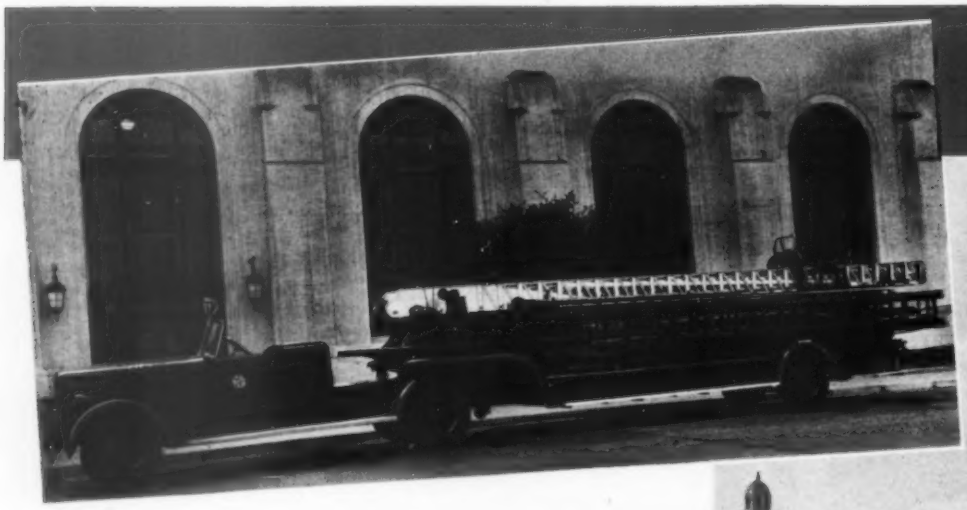
Designed by Ward LaFrance Truck Division for the City of Minneapolis, this 1000 G. P. M. "Quad" is a departure from standard models, and is so completely equipped that it is virtually a whole fire department on wheels. Included in its equipment are: 9 ft. enclosed four-fold Browder life net, 6 gas masks, 12 salvage covers, 3 in. and 2½ in. hose compartments on side of truck, gate valves for suction inlets, 2-12 ft. lines of 4½ in. soft suction hose, 8 pike poles, 6 axes, Bresnan collar nozzles, Peerless Hose Clamp, Shepherd hook and battering ram.

Whether your community is large or small, or has unusual operating conditions, it will pay you to investigate the economy and common sense behind Ward LaFrance engineering and manufacturing processes.

WARD LAFRANCE TRUCK DIVISION
GREAT AMERICAN INDUSTRIES, INC., ELMIRA, N. Y.

GAI

WARD LAFRANCE



PIRSCH BUILT AMERICA'S FIRST ALL-POWERED AERIAL LADDER —

Frior to the advent of the Pirsch All-Powered aerial ladder, strenuous efforts of four or five men were required to properly accomplish all maneuvers incidental to raising, placing and lowering the ladder. The Pirsch All-Powered Hydro-Mechanical hoist eliminated manual operation and made it possible for one man to accomplish all operations easily and quickly, thereby releasing others for important duty elsewhere.

The Pirsch 85′ aerial ladder truck shown above has been delivered to City of Los Angeles, Calif., and 18 1,250-gallon Pirsch pumping engines are now on order for Los Angeles.

PETER PIRSCH & SONS CO. KENOSHA, WIS.

"BUILDERS OF AMERICA'S FIRST ALL-POWERED AERIAL LADDER TRUCK AND AMERICA'S FIRST 100′ AERIAL LADDER"

In the gas-filled mine, Scott Air-Pak will help in emergency repairs, in rescue missions.

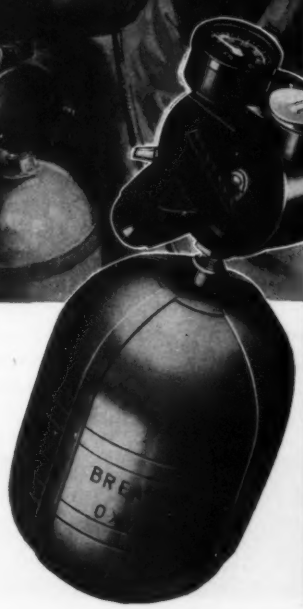
Firemen will depend on Scott Air-Pak to enter smoke-choked structure.

Searching and clearing storage tanks will be made safer, more efficient with Scott Air-Pak.

Preview of Post-War Life-Protection

★ Fliers whose missons carry them upwards of 6 miles into the stratosphere literally "travel on their lungs." And Scott ***Air-Pak*** (Portable Oxygen) Equipment enables them to carry on their duties with continuous respiration protection. Commonly called "walk around bottles", Scott Air-Pak units provide the requisite oxygen for the intervals when the mask is disconnected from the main oxygen line, and for emergency service when the main oxygen supply is destroyed in combat.

A combat necessity! Yet inherent in Scott Air-Pak equipment are the safety principles, the design, the practical know-how which point to important industrial applications in days to come. Plans are already in the making! Look to Scott for tomorrow's portable oxygen equipment.



Scott Air-Pak Unit—a light-weight, portable oxygen cylinder and precision regulator of the demand type—in active service on many fronts.

SAFETY EQUIPMENT DIVISION

ARMY (E) NAVY

Scott

AVIATION CORPORATION

Lancaster, N. Y., U. S. A.

What then?

Inadequate fire defense is indicated when a citizen must traverse a greater distance to send an alarm than is required by the recognized standard of box distribution.

ECONOMY, implying the elimination of waste, especially Fire Waste, to the end that the cost of winning the war may be quickly amortized—or a continuation of the ineptitude in planning which in the 21 peacetime years, 1919-1939, imposed a national burden of 8½ billions of dollars in direct property losses, three times that amount in indirect losses, and more than 200,000 human lives?

Continuation of such losses will add heavily to the burden of reconstruction and delay in planning to strengthen your fire defenses may seriously handicap your efforts to reduce fire losses. Your plans should not only be adequate—to be effective they must be included in the municipal program of post-war improvements.

Fire alarm, a vitally essential factor in the fire defenses is our specialty, and our experience in this field accumulated over a period of 75 years is freely at the disposal of every Fire Chief.

THE GAMEWELL COMPANY
Newton Upper Falls, Massachusetts

FIRE ENGINEERING

OCTOBER, 1944 VOL. 97, NO. 10

With the Editor

Putting Veterans Back to Work

With the European war in its final stages, the Government has announced the procedure for returning members of the Armed Forces to civilian life. Married men, over certain age limits, who have seen battle duty—and of course the injured—will be the first to be released. Already some municipal fire departments have begun to absorb former members of their service who have received their discharges.

This phase of wartime readjustment brings to light a point to which the fire service may well give serious consideration. That is the reception and resumption of duty by these men, and their future status as "war veterans."

How they shall be welcomed and received is of course a matter for local determination. That they should have all honors due them goes without saying. No one would deprive a single veteran of the glory that is rightfully his. At the same time, the task of re-absorbing them into the fire service and returning them to active duty, presents problems that may be far-reaching. There is the social problem; these men must be absorbed and take up their normal place in the community and its fire department with a minimum of discomfort and disquiet both to themselves and to their fellow firemen. There is the economic problem; what will their military service mean in the way of "veterans' preference" in future examinations for promotion, and how will they rate with veterans of World War One? What effect will all this have upon civil service?

These and related problems, such as handling physical disability cases, must be met and solved as they arise. Meantime there is one point which deserves immediate consideration. This has to do with the procedure for re-establishing these returning firemen to their old jobs.

It has been disclosed that some cities have experienced considerable difficulty because the discharged men were returned to active fire duty without first having a sufficient rest or readjustment period between the time of their discharge and beginning active fire duty.

Manifestly it is unfair to the men themselves and to the fire service to take a man who has only been released from active military duty—perhaps combat service—and expect him to fall right back into his old routine and customs as an active fireman. At best, the business of fire fighting is a nerve-racking one, and it may be disastrous to the returned veteran whose nervous system has not had a chance to readjust itself to the changed conditions.

It is suggested, therefore, that fire chiefs insist that men returning from the Armed Forces not be given active fire duty until they have had ample opportunity to readjust and recondition themselves for their prospective work.

Other Problems Of Readjustment

The approaching victory in Europe is spurring Congress and industrial leaders to think of reconversion and readjustment.

Notwithstanding the fact that the fire service neither manufactures nor sells anything tangible, it is concerned with this readjustment. It has a "plant" with real estate, buildings, fixtures, rolling stock and personnel that is more vital to the nation at this time than any other civil institution. After all, there can be no reconverting businesses and industries that have burned. If the fire service itself is not considered in these national reconversion and rehabilita-

tion plans, there may be serious results.

The fire service should have a top priority in the post-war rehabilitation program. Its needs for new construction, new apparatus and equipment, and new communications improvements should not be delayed or sidetracked. Now that the risk of enemy attack is practically removed, the fire service should be given the green light in an effort to bring it back to highest efficiency in point of equipment and manpower.

The War Production Board has now relaxed restrictions on the manufacture of hundreds of items for civilian consumption. It is time it withdrew all limitations on the manufacture and sale of apparatus and equipment necessary to the welfare of the fire service.

No Government Apparatus Available

In recent months a number of small communities have contacted the Office of Chief Engineers at Washington with reference to buying fire trucks purchased by that office for protection of War Department properties. It seemed to be the belief of these communities that there was an excess of these machines which would be available as "surplus property."

It should be pointed out that while there is at this moment a reserve of a few hundred fire trucks in the Army's warehouses, every one of these units will be needed for use abroad. In fact, it is not unlikely that the reserve will be found inadequate.

Furthermore, the U. S. Treasury Department is the only agency at Washington at the moment with authority to dispose of surplus equipment. This agency is the one that should be approached by those in the market for used or surplus equipment. But, as noted above, there are as yet no fire trucks available to be purchased from the government.

Be Ready For V-Day

When V-Day arrives, a sudden spontaneous celebration may be expected. And with this celebration may also come bonfires, waste paper showers from buildings, false alarms and other symbols of hysteria.

The dangers of bonfires and multiple false alarms are well known. The hazards of a street heavily covered with ticker tape and other waste paper are easily appreciated.

Fire departments should make plans now to cope with these hazards. They will arrive as surely as V-Day.

Fred Oberfell

Two-way Radiotelephone System Installed by Boston Department

THE Boston Fire Department is now operating its own two-way FM (frequency modulation) Motorola radiotelephone system* which consists of one central control station and thirty-three mobile units. This equipment permits the Boston Fire Alarm Headquarters to be in instant touch by radiotelephone with all the deputy and district chiefs and other officials whose cars are Motorola equipped.

The new radiotelephone system provides solid radio communications throughout Boston and part of the adjacent suburbs. It supplements the regular telegraph system installed, assures more accurate reporting of fire locations, more rapid control of fires and provides a means for instantly reporting the need for more or less equipment at the fire scene.

Though this installation has been operating only a matter of months, Superintendent A. L. O'Banion of the Fire Alarm Division, declared in a recent interview, "I am very enthusiastic about our two way radio system. It has increased the efficiency of the department tremendously and to be without it is unthinkable."

The Boston radiotelephone system is designed primarily to ensure coverage of all Boston's fourteen fire districts as well as the river frontage. Accordingly, each Department car of the fourteen fire district chiefs and each of the three Fire Department Boats is equipped with FM two way transmitting and receiving units. In addition, the Department cars of the Fire Commissioner, the Fire Chief, three deputy chiefs, the superintendents of fire maintenance, fire alarm, fire prevention and electrical inspection division, as well as the cars of the medical examiner, the chaplain, the arson squad, the fire alarm emergency truck and the three reserve companies have two way FM equipment installed.

Theses are known as mobile equipment and each unit is in itself a complete radio transmitter and receiver, operating whether the carrier is moving or stationary.

*Designed and manufactured by the Galvin Manufacturing Corporation, Chicago.

Operation

This is how the system operates. The radioman at the Central Control Station picks his handset off the hook and signals that he is on the air. He then delivers his message into the mouthpiece of the handset the same as he would into a telephone set. The message is carried over the wire to the transmitting unit where the sound waves are changed to radio waves, and broadcast over the coaxial antenna with sufficient power to cover a radius of eight miles. This distance is sufficient to cover all of Boston.

The radio waves broadcast are Frequency Modulated and are picked up by those antennas which are turned to the frequency used, in this case all the Fire Department equipment provided with FM two way units.

The waves picked up by the antennas on the mobile units are changed back to sound waves and the voice of the Central Control Operator is heard through the loud speaker attachment on the dashboard or other convenient location.

When the operator of a mobile unit wishes to speak to Fire Alarm Headquarters, he picks his microphone or handset off the hook, presses the button to signal he is about to broadcast and then delivers his message into the microphone or handset, whichever is used. The message is broadcast over the air, picked up by the Central Control Station antenna and thence relayed via loud speaker or handset to the Central Control Station operator. The FM two way system used is staticless and delivers messages clearly and distinctly in any kind of weather.

Photo No. 1 shows FM (Frequency Modulation) receiver unit installed in the rear compartment of one of the Boston Fire Department's cars. Radio Supervisor J. E. McCarron is indicating the small amount of space required for the unit. To the left may be seen the car type antenna with 3 point mounting. This type of antenna is adjustable at the base to resonate at any frequency between 30-40 Megacycles but is set on the wave length of 37740 KC allocated to the Boston Fire Department.

Frequency Modulation

Photo No. 2 shows the radio unit on the dashboard of one of the Boston Fire Department cars. The loud speaker faces the driver on the dashboard. The microphone used for the transmitting messages over the air is being used by the District Chief to report on the progress of a nearby fire. When not in use the "mike" is hung on a convenient hook. District Chief Chas. H. McDonnell and his Aide E. J. Kelley are in the car.

Similar receiving and transmitting FM two way mobile units are installed in the other autos and in the Fire Boats. The power output is 30 to 50 watts and covers a distance of eight miles, sufficient to be picked up by the antenna of the Central Control Station.

The Central Control Station is located in the Boston Fire Alarm Head-

Photo No. 1. FM Receiver Unit Installed in the Rear Compartment of One of the Boston Fire Department's Cars. To the Left May Be Seen the Car Type of Antenna with Three Point Mounting.

Photo No. 2. Radio Union on the Dashboard of One of the Boston Fire Department Cars. The Loud Speaker Faces the Driver on the Dashboard. Microphone Is Being Used by District Chief to Report a Fire.

quarters, 59 Fenway St. Here all messages are received and transmitted throughout the Boston area by means of the remote control station located on an upper floor of the Suffolk County Court House.

This is the second highest building in Boston and was selected by radio manufacturers' engineers and the radio supervisor of the Boston Fire Department as the most logical site for the antenna as the building is 420 feet above sea level.

Photo No. 3 is a view of the Central Control Station. On the marble topped desk in the foreground is the remote control console of the two-way FM radio Central Station transmitter and receiver unit with loud speaker attachment. The operator may be seen using the handset, similar to a telephone set, by which he is receiving an incoming message from one of the District Chiefs. When the handset is in use the loud speaker attachment is muted and when the handset is placed on its hook the loud speaker automatically is connected so that at times incoming messages are heard. The station is manned day and night, records of all messages are kept and reception at all times is clearly audible.

On the wall may be noted the large map of Boston and its environs as well as pins denoting locations of particular interest to the Boston Fire Department. All alarms are automatically transmitted over the radiotelephone system at the same time as the alarm is sent out over the primary alarm tapper circuits. This results in as foolproof a system of reporting fires as modern ingenuity has so far devised. Grouped around the remote control radio unit are Superintendent of the Fire Alarm Division, A. S. O'Banion, Chief Operator J. E. Laughlin and Radio Supervisor J. E. McCarron.

Photo No. 4 shows the car of District Chief Chas. H. McDonnell equipped with the FM two-way transmitting and receiving unit. The car is parked by the City of Boston Fire Department Building erected by the citizens of Boston and dedicated to fortify and extend the principle of organized resistance to the scourage of fire. While in his car District Chief McDonnell is at all times in instant touch with Fire Alarm Headquarters. The four officials shown are District Chief Chas. H. McDonnell, Superintendent of Fire Alarm Division A. L. O'Banion, Radio Supervisor J. E. McCarron and E. J. Kelley, Aide to the District Chief.

Ardent advocate of independent short-wave radio for the Nation's fire service is Boston's fire chief, Samuel J. Pope, also President of the International Association of Fire Chiefs.

Chief Pope's first act as President-elect was to reappoint the Association's Committee on Communications. He was prominent at the business sessions of the recent conference of the International Municipal Signalmen's Association and will appear later this month, with other prominent members and friends of the fire service, before the Federal Communications Commission to plead the cause of wider, greater use of radio in fire service communitions. He had this message for the readers of FIRE ENGINEERING: "If the nation's mounting fire losses are to be controlled, and reduced, we must advance our communication's facilities — of all kinds. Without adequate communications the fire service has two strikes called on it before it can get to work. . . . By adequate, I mean short-wave, two-way radio, independent of any other emergency service."

Photo No. 3. View of Central Control Station. On Desk Is Remote Control Console of the Two-Way Radio FM Radio Central Station Transmitter. Map of City of Boston Is in Background.

Similar radiotelephone systems may now be installed by other fire departments serving communities of over 150,000 persons, according to a recent ruling of the Federal Communications Commission, indorsed by the War Production Board. This means that a most advanced step in fire fighting has been accomplished as radio offers the opportunity of saving that precious commodity, Time, in getting to a fire and in summoning sufficient equipment to control quickly the fire situation encountered.

All radiotelephone equipment used by the Boston Fire Department for Radio Station WEY and the mobile units is similar to the FM two and three way police radio-telephone systems installed by the state police in twenty-six states throughout the United States. Certain improvements and modifications to meet special Fire Department provisions have been made but, since Radio Fire Stations are basically the same as the Police radiotelephone system, the same efficiency and trouble free operation obtained by the Police will most probably also be obtained by the Fire Departments.

Fire Alarm Division

The status of the Fire Alarm Division in the Fire Department has often been compared to the Signal Corps in the Army. The Fire Alarm Division provides the Signal and Communication System for coordinating the work of the Fire Department.

The first electric telegraph alarm system in the world was in Boston, and the first alarm was transmitted on April 28th, 1852. Since that date through December 31, 1943, there have been transmitted a total of 180,187 box alarms.

Out of Fire Alarm Headquarters there are 145 circuits consisting of 94 box circuits; 20 tapper circuits; 16 gong circuits; 3 circuits to private alarm companies; one high pressure pumping circuits; 2 special circuits in the High Pressure area; one City Hospital circuit and 8 Mutual Aid circuits.

There are 1,800 fire alarm boxes in the city with about 20 boxes connected in series in either circuit. When a box is pulled its special coded break-wheel opens and closes the circuit in accordance with the box number. This signal is received at the Fire Alarm Office by audible and visual signal indicators and at the same time the alarm is recorded on a register with the time automatically stamped on the register paper. In turn the alarm is transmitted by the Fire Alarm Office, three rounds over the tapper circuits and two rounds over the gong circuits. When a person calls the Fire Department over the telephone to report a fire, the call goes to Fire Alarm Headquarters where full information is secured regarding location, whether in or out of the building, and

the calling party's telephone number and exchange. From the file of streets, the nearest engine company, ladder company and district chief are secured and these pieces are dispatched. If the fire is inside of the building, the nearest box is transmitted which brings full assignment of apparatus. Due to the duplication and similarity of street names, extreme care must be exercised in checking the locations.

The telephone switchboard at Fire Alarm Headquarters has thirteen incoming trunk lines from the Kenmore Exchange and two emergency trunks from a different exchange. When a party reports a fire by telephone, it is recommended that the call be given to the telephone operator, for in this way the call comes in on one of the special emergency trunks with a red signal light and therefore the call receives preference. It has been recognized however, that the fire alarm box should always be used in preference to the telephone, since it has a definite location and it is more dependable and quicker.

There are a number of different types of fire alarm boxes in use. In general, they can be divided into two classes: Sector or "Bull Dog" type and succession type. When a Sector box is pulled, a spring is wound which causes the box to transmit four rounds of its signal. If two or more Sector boxes on the same circuit are pulled at about the same time, each box transmits its number so that there may be a distorted and unreliable signal received at Headquarters. In this case it will be necessary for the Fire Alarm Operators to carefully but quickly analyze the signals to determine which boxes have been pulled.

This interference between boxes on the same circuit is eliminated by the use of a succession type of fire alarm box. A succession box will wait until the first box has completed its operation then it will proceed to transmit its signal. There are over 300 Sector boxes in use in Boston and they are distributed over all the circuits to avoid possible interference. A Sector Fire Alarm box requires no winding but the various types of Succession boxes must be mound by the man reporting at the box.

There are approximately 330 fire alarm boxes in operation which are auxiliarized and therefore can be tripped from one or more auxiliary stations other than the master box itself. For these installations not only must the fire alarm box be wound but the auxiliary system must be reset and the Fire Alarm Office notified.

The Boston Fire Department operates its own radio system, licensed under the call letters of WEY, with a 250 Watt transmitter operating at 37,740 KC. All alarms transmitted over the tappers are automatically transmitted over the radio.

The operation of the Fire Alarm Division is for the purpose of coordinating the activities of the Fire Department. Only by mutual cooperation can the best results be secured for the protection of the public.

In the interests of securing the most effective results the following suggestions are given:

(1) Every man in the Fire Department should visit Fire Alarm Headquarters in order to acquaint himself with the operation of the Fire Alarm System, and become familiar with the different types of the fire alarm boxes.

(2) When notifying the Fire Alarm Office that apparatus is responding to a fire, information should be given, if possible, as to whether the fire is inside the building.

(3) When reporting apparatus back in quarters from a fire it will save time if the man states the alarm to which the apparatus responded without waiting for the Fire Alarm Office to inquire.

(4) When special signals are transmitted over the tapper circuits, Companies should refrain from calling the Fire Alarm Office to inquire what the signal designates and the reason for transmitting the signal.

(5) The man on watch patrol in the various Companies should report Chief Officers in and out of quarters. This will enable the Fire Alarm Office to know where they can contact the various Chief Officers at all times.

(6) Firemen should give the correct location of a fire to the Fire Alarm Office when returning to quarters. Frequently the location received by the Fire Alarm Office does not agree with the location reported by the Chief on his fire report.

(7) In calling Fire Alarm Headquarters over the radio operators in mobile units will use the following procedure:

For a Test: "Car A calling for test."
Fire Alarm Office: "O.K. Car A. WEY. Time—"
For a Message: "Car A calling Headquarters."
Fire Alarm Office: "Answering car A. Go ahead.

The car will then proceed to give the message to Fire Alarm Headquarters. Do **not** give any message until the call is acknowledged by the Fire Alarm Office. At the end of transmitting the Fire Alarm Office will announce the Station call letters and the time. In talking with the Fire Alarm Headquarters over the radio it is not necessary to shout but speak in normal tone of voice, slowly and distinctly. When calling Headquarters the microphone button must be held for about two seconds before giving any message. The button must be released in order for the car to receive a message.

Photo No. 4. Car of District Chief Charles H. McDonnell Equipped with the FM Two-Way Transmitting and Receiving Unit.

Durham Firemen Honored for Work at Fire

Firemen of the Durham, N. C., Fire Department, Police Department, Army personnel, Navy V-12 students and local electric and telephone servicemen were honored at a barbecue supper recently for the work they did on July 8 when fire ravaged the center of Durham's "Tobacco Row." Their hosts were the various firms which owned property in the area where the fire occurred.

Honor guests included Fire Chief Frank Bennett and the Durham Fire Department, Police Chief H. E. King and the Durham Police Department, Major Watts, fire marshal, and Chief John Womack and the Camp Butner Fire Department; Major D. D. Diaz, provost marshal, and the military police of Camp Butner; Chief Lawrence Winfree and fire fighters of the Army Air Field; members of the Durham auxiliary police; Captain C. P. McFeaters and sailors of the V-12 program, Duke University; the crew of the Durham Telephone Company who restored service; the crew of the Duke Power Company who restored service and Sheriff E. G. Belvin and his deputy sheriffs.

Chief Bennett was presented with a $100 bill which was left over from the expense of the barbecue. This money was designated to be used for the good of the members of the fire department.

Little Hope Seen for Lifting L-39

The short supply of copper makes it unlikely that applications for the manufactur of soda and acid fire extinguishers will be approved through the War Production Board's "spot authorization" procedure, the Fire Extinguisher Industry Advisory Committee was informed at a recent meeting.

The manufacture of these extinguishers is prohibited by Order L-39, but application for authorization to manufacture them may be made under Priorities Regulation 25, the "spot authorization" order.

Committee members requested information on the possibility of increasing the tin content of solder used in the manufacture of other types of extinguishers. Under Order M-43, the maximum permitted tin content is thirty per cent.

Tin is in shorter supply than it has ever been, and there is no possibility of increasing the tin content of solder at present, a representative of the WPB Tin, Lead and Zinc Division reported.

Hurricane Finds Fire Service Ready

September Storm Disrupts Communications but Fire Service Meets Challenge and no Serious Fire Results

THE hurricane of September 21, 1938, which took a toll of 680 lives and half a billion dollars worth of property, taught the fire service and disaster organizations a lot. Some of these lessons have been put to use—others not.

One of them was that when the weather bureau predicts such storms the warnings should be taken seriously. Undoubtedly the fact that the West Indian blow of September 14 last was not productive of greater loss of life and property is due to observance of that lesson. The public and emergency services took the Bureau's warnings to heart—and prepared. As it was, nearly sixty were killed (exclusive of the heavy naval loss of life last reported at over 330) and property damage ran into the millions.

"Blow by Blow" Description

The hurricane which developed north of the doldrums, and hovered off the Southern coast for several days before it veered toward Georgia and the Carolinas —(to the relief of the Floridians who were on the alert) was more closely charted than any similar disturbance in recent years. This, the Weather Bureau explained, was because Army and Navy planes continually observed and reported on the storm area. *"They put the hurricane warning service back on its feet"* is the way meteorologist Grady Norton put it. Radio silence imposed on surface craft by the war has been a big handicap to weather forecasters since Pearl Harbor.

On the 12th, the American Red Cross alerted Chapters along the Atlantic Coast, South of Virginia. As the storm moved up the coast, growing in intensity, warnings were repeatedly broadcast to citizens and protective forces; possibilities of damage from high tides as well as wind were emphasized; civilian defense organizations still in existence were put on partial alert.

The storm tore a 500 mile destructive path along the coast, hitting New Jersey, Long Island and some Connecticut and Rhode Island towns with 85 mile blasts and drenching rain, moving up the shore at the rate of about 40 miles an hour. All records for wind velocity at the New York City Weather Bureau were broken. With the 1938 storm in mind, many small communities along the coast were evacuated.

Fatalities Not as Heavy as in 1938

Fatalities, although nowhere near as heavy as in the 1948 blow, continued to mount. Civilian deaths due to the storm, as we go to press, reported at about 60, with scores seriously injured. Several days after the blow the Navy announced the loss in the hurricane of the large destroyer Warrington, two Coast Guard cutters, the Jackson and Bedloe, and minesweeper, 409. The 123-foot Coast Guard lightship "Vineyard Sound" was also lost, with eleven officers and men. Thirty-one survivors were saved from the two cutters, with forty-nine missing. The loss of life on the Warrington was given as "heavy." The normal complement of the "YMS—409" was approximately twenty men and officers.

Metropolitan New York led in the number of civilian fatalities, the majority of deaths being due to contacts with fallen power lines, over-exertion, falls and drowning. In Atlantic City an air raid warden was killed by flying debris.

That loss of life was not heavier may also be attributed to the prompt and efficient work of the municipal and civilian rescue and other emergency services. These labored all night of the 14th and, in some localities for days after, patrolling streets, removing fallen trees, and wires, pumping out basements, guarding areas left without fire and police communications, an so on. Military personnel also assisted in these tasks, particularly in Jersey, where some shore resorts, which had been taken over by the Army, were evacuated.

Utilities Hardest Hit

As usual the light and power, and telephone companies were hardest hit. Here, it seems, the lessons of the last great hurricane had not altogether been taken to heart. Overhead wires, torn out in the 1938 storm had for the most part, been replaced where and as they were, only to prove ready prey to this year's blow. This was true to some extent of fire and police communications, with near-disastrous results.

Loss of power lines, besides cutting off water pumps, sewage systems and power for emergency wire communications, complicated the problem of clearing out debris. Thirty thousand homes in metropolitan New York alone were without electricity four days after the storm, despite herculean efforts of utility companies, aided by help imported from outside states. All told, over 150,000 consumers were without electric service in this area alone—15,000 more having no telephones. Atlantic City and other places on the New Jersey coast suffered even worse, proportionately, with water so high that one fire department pumper had to be abandoned when it was stalled by the high tide; shore hotels flooded to several feet depth on the main floors, piers and boardwalks washed or blown away, signs, radio aerials and in places, entire roofs, blown down.

As usual in such emergencies, the telephone companies were swamped with business. The New York Telephone Company alone had a total of 11,250,000 calls on the 14th from stranded commuters anxious to contact their families, and from thousands of others inquiring about the safety of relatives and friends —one reason why this form of communication is so undependable. Notwithstanding the almost continuous radio reports of the progress of the storm broadcast in that area, the company's weather exchange had 155,000 calls for the day against an average total of 22,000 calls. At LaGuardia airport 255 air flights were cancelled during the three days of bad weather.

Fire Service Has Busy Time

From the time the hurricane hit the Carolinas until it blew out to sea off Canada, the fire service was on the jump —yet with all the extra work, there is no record of a single fire in which there was serious loss of life or property during the storm.

Some Fire Departments Were Called Upon to Perform Rescue Operations Where Buildings Were Collapsed or Damaged by the High Wind. Here Is a House Opened up by the Big Blow as It Swept Through Atlantic City, N. J.

Perhaps the best idea of activities of the fire service may be drawn from the report of Chief Thomas H. Shipman, New London (Conn.) Fire Department. It may be remembered that that city was the scene of the most serious of all the fires attendant upon the 1938 blow. Here is what Chief Shipman reported:

Apparatus: The following apparatus was placed in service and functioned without a breakdown of any kind for the duration of the emergency: Eng. No. 1; Aux. Eng. No. 1; Eng. No. 2; Eng. No. 3; Aux. Eng. No. 3; Hose No. 5; Aux. Hose No. 5; Eng. No. 6; Aux. Eng. No. 6; Eng. No. 7; Aux. Eng. No. 7; Truck No. 1; Truck No. 2; Aux. Truck No. 2; Aux. Truck No. 3, and the Rescue Wagon, a total of 16 companies in all.

Personnel: All regular and auxiliary apparatus was fully manned by regular, auxiliary and volunteer firemen during the entire emergency. All regular off-shift men being ordered back to duty and all auxiliary and volunteer men called in by our fan-out system.

Alarms: Nineteen alarms were received during the emergency, all of which were handled with perfect coordination and resulted in no serious damage by fire to any building.

Communications: Communications was our greatest difficulty; several times our fire alarm and telephone communications were disrupted by falling trees and wires. This left us in a most serious situation. Fortunately, repairs were made before it could effect our transmission of alarms but it was a close call.

Recommendations: It is most urgently requested that serious consideration be given to providing radio communication to our outlying fire stations immediately, as once we lose contact with them we are in a serious situation. There will be a considerable balance left in my 1943-44 budget and I earnestly recommend that a portion of it be used to purchase this badly needed equipment.

THOMAS H. SHIPMAN,
Chief Fire Department.

New York Faces Critical Situation

The storm brought the most serious interruption to fire alarm communications, and threat of fire to New York City that it has ever known. More fire alarm boxes were put out of commission than by any other similar disarter. A total of 4,119 alarm boxes in Brooklyn, Queens and Richmond Boroughs were out of service at various times from Thursday the 14th to the following Tuesday. In the 1938 hurricane, 3,500 boxes were incapacitated.

Jerry Daly, writing in the "Chief" of September 22, 1944, gives this statistical picture of the disruption of aerial fire alarm service:

	B'klyn	Bronx	Queens	Richmond	*Total
CKO	14	81	52	14	101
BXO	324	395	2768	632	4119
PLD	8.5	17.5	83	58	42
RPM	28	27	36	13	†104
FRL	11a 9-16	9p 9-15	5p 9-19	2p 9-16	

CKO — Circuits open.
BXO — Boxes out.
PLD — Percentages of circuits and boxes disabled.
RPM — No. of regular fire telegraph trouble shooters and firemen released from street patrol.
* — Manhattan excluded.
† —41 were Firemen.

On the afternoon of the day of the expected blow, Fire Commissioner Patrick Walsh notified the Department that the recall signal would be sounded if the storm struck New York, and at 8:30 P. M. the 6-6-6-6 was struck by his order. All available firemen, augmented with scores of auxiliaries, were ordered on patrol in areas where fire alarm service had been disrupted. Meanwhile the Department's fire alarm communication's personnel — every man and woman—had been alerted and mobilized under Chief Van Fendrich of the Fire Alarm Telegraph Bureau.

The importance of placing fire alarm circuits underground was demonstrated by this storm. In the borough of Manhattan, where all fire service wire communications are almost without exception so installed, the service was totally unaffected by the rain and wind. Other boroughs and the suburbs were seriously affected. Fallen telephone and telegraph wires were inextricably jumbled with power lines, poles, trees and debris. In many cases charged high tension power lines lay in shallow water making even puddles hazardous to repairmen and citizens. Many fire alarm boxes were damaged.

Telephone Service Jammed

As usual, congestion on the telephone switchboards was a serious hazard. Almost everyone with water in his cellar, or a cluttered drain, or whose electric lights were out, called up the fire department, if their telephone was working. Congestion on fire department trunks might have proved disastrous, had there been a serious fire. Many circuits which, though down, were intact, were later broken when citizens and wrecking crews attempted to clear away wreckage. This, coupled with the beforementioned congestion at telephone exchanges, gave the fire department some anxious hours.

In New York City at 7:00 A. M. on the 15th. fire telegraph emergency signal 13-13-13 was sounded to call into service all those members of the fire fighting forces who had experience as pole climbers, linemen, circuit maintainers, wiremen and similar crafts. They were split into squads and they accomplished a Herculean task of restoring fire alarm central stations under the professional guidance of regular fire alarm telegraph men. The force worked without respite until all repairs had been made.

The telephone and power companies also had every possible person who could be pressed into service in the field and, as usual, they cooperated fully with the fire service in the effort to reestablish fire service communications and power facilities.

Other Fire Service Emergency Activities

The disaster again demonstrated the importance of not only municipal fire and police radio, but of the commercial broadcasting companies. As soon as the fire communications problem became manifest, New York's Commissioner Walsh issued a public appeal by radio and press, urging citizens to be careful about fire and be on the alert in the areas where the fire alarm telegraph was reported inoperative. He advocated using the telephone to transmit alarms through this reporter, listening in on the commercial radio, failed to hear any advice given on what to do in case both fire alarm box and telephone were out. The situation was later helped somewhat by patrolling the area with off-shift firemen, auxiliaries, and police.

The Fire Patrol came in for its share. It was pestered with calls for tarpaulins and pumps. None could be spared. Chief Espey of the Patrol lost his telephone service at home and transferred to another bed in Patrol 8. Deputy Chief Cashman was on active duty in old Patrol 4.

New York City's fireboat fleet got a hard workout. Forewarned of the storm, Division Chief John L. Holian notified the fire alarm headquarters that fireboats would not respond on first alarms pending preliminary reports (from the scene of the fire). This wise precaution was augmented by another prudent order to fireboat commanders to keep boat en-

Blocked Streets, Caused by Hurricane-Felled Trees, Delayed Fire Apparatus Response. This View Is of Rugby Road, Cedarhurst, Long Island.

gines idling sufficiently to taut the hausers, thereby reducing, if not eliminating, damaging the docks and fireboats. Some mooring lines parted, but no boats were damaged.

Reports indicate that four of the city's boats braved the gale at its peak fury. The Fire Fighter rescued a barge off the Battery and worked it into Pier 8 East River; the Gaynor fought the gale to reach a barge in distress off Bay Ridge only to find it on the rocks; the gasoline-powered Harvey went to the rescue of a lighter which could not be located—the wind and tide being faster than the fireboat; the Strong rescued a piledriver adrift at the St. George Terminal of the Staten Island Ferry.

An ironic note was the fact that one of New York's high pressure pumping stations on Oliver Street, Manhattan, could not pump out its own flooded cellar. Several Department 1,000 gallon pumpers and a half dozen 250-gallon portable pumps were dispatched to Lt. Harry M. Irwin, Supervising Engineer of the Department, and he and his assistants overcame the difficulty. They also took care of a number of hospitals and other emergency cases.

In addition to regulation fire department pumpers, and emergency pumps provided by the Water Department, fifteen OCD auxiliary emergency pumps were used by Division Chiefs Senner and Woods in the 13th Division which includes Southern Queens and all of Rockaway. These are reported to have been in operation from Saturday noon, September 17th to Tuesday noon, the 19th, under the direct supervision of John J. McCarthy, Assistant Chief of Department in Command, who, parenthetically, had his own flood and lost a valuable 25-year accumulation of fire service data.

According to the Fire Patrol Bulletin, there were 151 alarms of fire in New York City (all Boroughs) for the period of the hurricane in the evening of August 14 and the early morning of the 15. Fortunately none of these were serious. Short circuits accounted for the majority of the alarms, 98; falling trees, poles, etc., 11; water leaks and floods, 15; automobiles, 6; electrocuted, 1; and fires due to other causes, 20. This does not take into consideration responses made by the Fire Department and Fire Patrol where no fire was involved, or for incipient fires extinguished by other emergency forces.

Some other activities by the fire service included, in Cambridge, Mass., distribution of portable lighting units to provide for power failure at hospitals; use of Rhode Island "fireboats" to pump out water-logged craft and for salvaging light craft that had broken away from their moorings and the operation of numerous civilian defense 500-gallon pumps by auxiliary and regular firemen in removing water from flooded areas and structures.

Some Conclusions

The hurricane demonstrated once again the wisdom of thorough preparedness for this type of emergency. It also evidenced the value of radio—both independent short-wave two-way radio for the fire service, and commercial broadcasting to maintain contact between the general public and the emergency municipal services. Further, it demonstrated the importance of not placing too great reliance on the telephone as a means of communication in large scale disasters, and of locating fire department communication wires underground. The question comes to mind, after reviewing the destruction to fire communication facilities, what will we do to capitalize the lessons learned by this storm? As to improving communications facilities, skeptics believe we'll more than likely continue right on as before. Overhead wires and poles are being replaced as they were. It is hoped, however, that as soon as labor and materials are available those areas which have been, or are liable to be effected by similar storms, will be made ready for any eventuality through the inauguration of improvements which every consciencions fire alarm telegraph superintendent and fire chief know are sadly needed.

The hurricane also emphasized the need of not only planning for operations of off-shaft firemen, but auxiliary and civilian defense personnel—and their mobilization. In a number of cases volunteer firemen were unable to get their cars out of their garages, or to operate them over the debris-cluttered roads when attempting to respond to alarms. Many communities had no prearranged "disaster" plan of procedure even with the history of several similar catastrophies to guide them. Some had no reserve power to operate fire alarm systems, including diaphones, for any length of time. Others were caught with a shortage of trained communications personnel to reinstate disrupted systems. Here, light and power company workers were of great assistance.

Another factor was the employment of standard fire department pumping apparatus for emptying flooded basements, cleaning out sewers and the like. At a time when such equipment should be conserved in every possible way, to use it for such purposes was bad practice, to say the least. Many communities that have OCD pumps failed to place them into operation. In some cases the units were minus batteries or for other reasons could not be started. In others, fire chiefs were loath to accept the responsibility of using the loaned equipment for that purpose—in spite of the fact that the Office of Civilian Defense has authorized such use. In others the units were operated successfully because they were made ready after the initial storm warnings were received. There should be no excuse for a community which has OCD pumping units not utilizing them in such emergencies. According to the survey of the International Association of Fire Chiefs, pumping out cellars is one use for which they are entirely satisfactory and for which many fire departments have used them.

Magnesium—Hidden Menace

Believed at first to be merely rubbish smouldering in the junk yard of the Stratford Metal and Rubber Company, Bridgeport, Conn., firemen of that city on August 30 encountered a large pile of magnesium-covered aluminum shavings which, when hit by streams of water, exploded in a series of blasts that rocked structures and shattered windows in several Elizabeth Street homes.

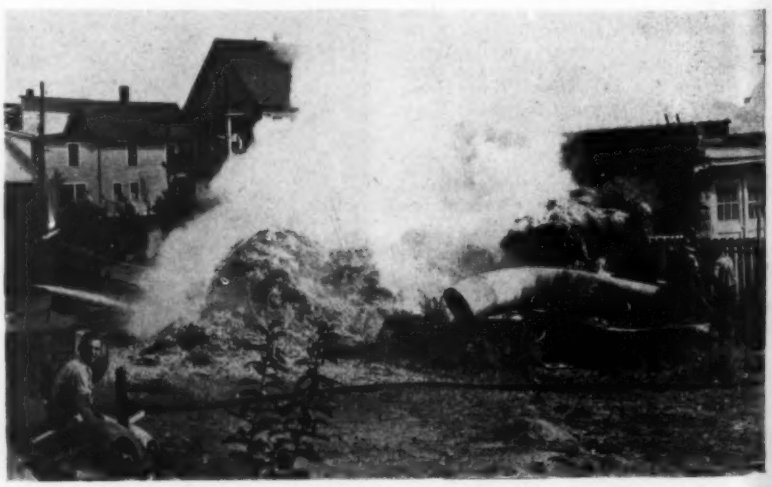
One terrific blast knocked down several firemen, sent spectators, who had circled around the blazing "rubbish" heap scurrying for cover amid a shower of sparks, but fortunately injured no one.

The first alarm was received at 9:42 A.M. from Box 738, Barnum Avenue and Grant Street, bringing out Engines 2 and 6, Truck 6 and Squad 5. At 10:29 A.M. a second alarm was received from the same box, Engines 10, 5 and 4, and Truck 10 responding. Recall was at 11:00 A.M.

Four thousand eight hundred and fifty feet of 2½ inch hose was used in fighting the fire. Three 2½ inch fog nozzles, put in operation as soon as firemen learned that the burning materials contained magnesium, effectively controlled the fire.

Questioned by fire officials as to the presence of magnesium in his junk yard, Joseph A. Nowitz, owner of the Company, said that he purchased 2,700 pounds of what he believed to be "aluminum turnings" from a New Haven, Conn., junk dealer. The scrap, he said, had been sold to him in large burlap bags and no mention of magnesium was made when the purchase was consummated.

THOMAS F. MAGNER



Firemen Fighting This Junk Yard Fire Were Surprised and Endangered by Violent Explosions Which Were Found to be Due to Magnesium Scraps.

SACRAMENTO WAREHOUSE FIRE REQUIRES GENERAL ALARM CALL

Smoldering Fire Suddenly Breaks Out and Involves Entire Structure; Flames Spread to Adjoining Structures

FIRE which mushroomed rapidly through the Boone Moving and Storage Company warehouse at 2944 Thirty-fifth Street in the Oak Park section of Sacramento, Cal., on July 17, gutted two three-story buildings and for a time threatened to spread to other structures as firemen and scores of volunteers fought the roaring inferno.

Photo by Harlan Smith, "Sacramento Union"
Water Tower in Operation at the Warehouse Fire

The fire, believed to have started from spontaneous ignition in the warehouse which was jammed with household furnishings, apparently smoldered sometime before it was noticed.

By the time fire equipment was in operation, the flames had swept through the warehouse and onto the roofs of the Eagles Hall and the Matthias Building, housing six apartments and four business establishments.

The apartment building's two upper stories were destroyed, six families losing most of their possessions. The warehouse and its contents are described as a total loss and the rear of the Eagles Hall was gutted with the resultant loss of equipment.

Damaged by smoke and water were the Robert Powell Dress Shop, Art Woodall's florist shop, the Pacific Gas and Electric Company, the office of the Southern California Water Company, the Eagles Club Cafe and the Oak Park War Price and Ration Board, which was on the ground floor of the Eagles Hall.

Altogether the damage was estimated at nearly $200,000, the biggest loss being in the warehouse.

The alarm was turned in at 6:36 P. M. and the Oak Park equipment stationed about 200 yards away, rushed to the scene. The flames raced through the one-story warehouse, burst through the roof and leaped high to the three-story buildings fronting the main street of Oak Park. The apartment building, directly in front of the warehouse, caught fire quickly but its occupants escaped without injury.

The blaze spread swiftly to the Eagles Hall and a general alarm was sounded.

Burning embers threatened to spread the fire throughout the business district. Half a dozen awnings as far as half a block from the fire blazed fiercely. Volunteers extinguished them and played streams of water on the roofs of nearby buildings.

Spectators swarmed into the area so swiftly that the movements of firemen were impeded. Fire trucks were forced to crawl along Thirty-fifth Street, their bells clanging to clear a path through the crowd. Firemen had difficulty moving ladders and hoses because so many people were in the way. The blaze practically was under control before the police managed to rope off the section and keep the spectators away from the immediate points of operation.

The flames were placed under control in one hour and twenty minutes, but the firemen were busy for more than an hour afterward pouring water into the smoking buildings. Eight engines and trucks, including the water tower, four hose wagons and the rescue truck responded to the alarm.

OCD APPARATUS NOT DESIGNED FOR REGULAR DEPARTMENT USE

This Point Usually Overlooked by City Officials Who Urge Acquisition of this Apparatus

By Roi B. Woolley

EVER since it first became apparent that the purpose and limitations of the pumping units and accessories procured and distributed by the Office of Civilian Defense were being misunderstood in some municipal circles (including not a few fire departments) FIRE ENGINEERING has repeatedly and emphatically warned the fire service of the fallacy of any thinking that would class apparatus and equipment designed and built solely as an expediency measure to meet an emergency (which fortunately never happened) with regulation, standard fire fighting apparatus and equipment.

The national Office of Civilian Defense, which created this emergency equipment, and has repeatedly stressed its limitations, cannot be blamed if certain overly enthusiastic civic officials could not distinguish between a pumping unit and hose made without the use of basic critical materials as demanded by the government, and regulation apparatus and hose, such as have been the mainstay of the fire service for generations.

Perhaps state and local civilian defense officials, particularly those in charge of OCD property, have unwittingly encouraged people, and possibly even some firemen of their communities,

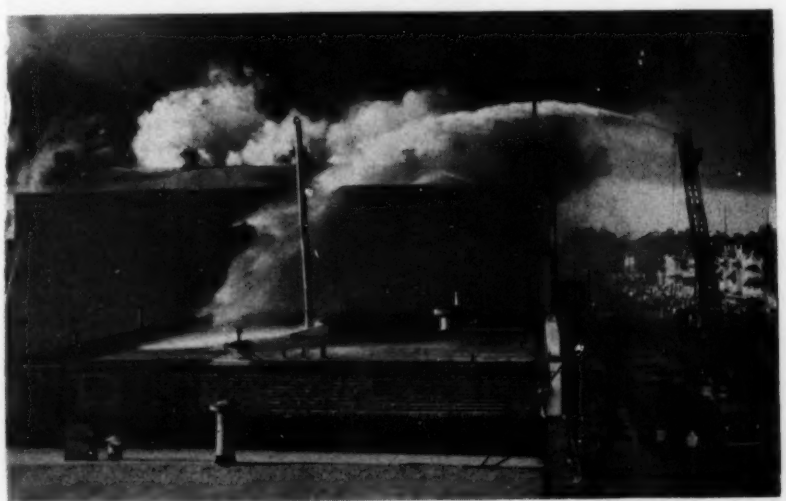


Photo by Harlan Smith, "Sacramento Union"
Another View of the Oak Park Fire Which Damaged Three Buildings

to have a false conception of this OCD materiel. They can be pardoned for a natural enthusiasm over pumps and accessories which will, under most favorable conditions, throw water all over the landscape, but there is no excuse for experienced fire officers accepting this rosy viewpoint any more than they should put up with *any* facilities short of the *best* for their vital and hazardous job. Certainly it should be apparent to even the novice fireman that pumping units built of substitute materials—soft metals in place of bronze, and brass and single jacket hose with soft iron couplings—cannot hope to perform reliably for any period of time, under normal fire fighting conditions.

Notwithstanding this fact, we find city councilmen advocating the purchase of this temporary, OCD emergency equipment in place of needed standard regulation types. Take this item in a Pennsylvania paper, sent by a professional fire fighter with the statement: *"With all the preaching you and . . . others have done concerning OCD equipment, you can see what we as firemen in ——— have to put up with:"*

According to Councilman ——— the city now possesses about $80,000 *worth of OCD equipment, the majority of it for fire fighting purposes. . . . The big* 500*-gallon pumps, the ladders, hose and the accessories are usable . . . it would pay the city to buy it. The big pumps are worth about* $1,600 *when equipped with hose, axes nozzles, ladders and other accessories. "They are the finest available," the councilman said. "Mounted on a chassis that may cost another* $1,500 *the city would have a formidable fire fighting machine that compares with the best. Fire engines of the type used here cost as high as* $12,000 *and* $14,000."

There you have it. Now contrast this with an item from a Chicago paper of about the same date:

Fire Commissioner Michael J. Corrigan disclosed . . . that the 150,000 *feet of hose loaned to Chicago by the office of civilian defense three years ago will not be used by the city fire department . . . "because it will not stand up" to the demands of the department . . . the hose is not considered safe when carrying more than* 150 *pounds of water pressure.*

The department's fear of using the OCD gift was justified in embarrassing fashion recently, Corrigan said, when some of it was used in a demonstration for visiting dignitaries from other cities on the fire department's drill school field. . . . While the visiting firemen and some army officers stood by, the pressure was turned on. The OCD hose burst. Visitors were drenched, and Jeremiah J. Sheehan, the department drill master, was bowled over. He remained in a hospital for several days. Commissioner Corrigan said "I do not know the cost of the OCD hose. I never asked what hose like that would cost because I would not be interested in buying any."

As the end of the war approaches the problem of what to do with this OCD fire fighting equipment becomes more acute. In spite of the efforts of the Committee formed of all major fire service groups to recommend suitable disposal or dispersal of this equipment—and without waiting for its report—demands by civil authorities to keep it and use it in place of regulation, standard apparatus and equipment are growing. This will continue to be the case as long as fire officials remain inarticulate and accept the irrational statements of their local civilian protection and the government officials without protest. When a nation's property and the very lives of its citizens are at stake from the ravages of fire, it is no time to place reliance on makeshifts and substitutes.

CIRCUS TO CARRY ON WITHOUT THE USE OF FAMILIAR "BIG TOP"

Until Fireproofed Canvas is Again Available, Open Air Performances Will Be in Order

By Thomas F. Magner

WHATEVER effect the Barnum & Bailey circus tragedy at Hartford, Conn., on July 6 and which cost the lives of 168 persons, will have on the "Big Show's" box-office while it is playing "under the skies" remains a question, but there is no doubt as to the safety of the circus as far as fire is concerned.

On August 22, last, this correspondent of FIRE ENGINEERING saw the opening performance of the circus held at Soldier's Field, that famous concrete stadium in Chicago, located south of Grant Park on the shore front of Lake Michigan. The first night's show was for War Bond buyers and drew over 12,000 spectators who came away convinced that fresh breezes are a surprising innovation and a welcome change from the close confines of a canvas enclosure.

It's the same circus with but a few changes; same performers, same sights, sounds and, of course, smells. But some of the acts have been revamped to meet the new "sky's-the-limit" set-up. The 20 ton tent is gone, lost in the Hartford holocaust, and since no fire-proof one was available this season, the canopy is the sky. Still, Chicagoians took the new arrangement in splendid spirit, realizing it was necessary for the safety of all.

During the morning I saw the show folk going through rehearsal and talked to one group of performers who vowed after the Hartford fire that they were "all through" with the circus. They are the "Flying Wallendas," Herman, Carl, Joe, Helen and Henrietta Wallenda, world famed artists on the high wire. When the flames swept through the tent at Hartford the Wallenda family were on the center high wire in the air, and about to begin their act. Herman Wallenda, head of the troupe, lived that terrifying few moments over again for the writer:

"It didn't seem to spread fast," he recalled. "I thought I had time to lash the bicycles which we had put on the wire ready to begin our act. But, when the flames hit the roof, we saw we had to get down fast or be burned alive. We slid down the ropes near the center ring and started for the performer's exit through which the animal act had left. But people were so crowded in

Photo Courtesy "Chicago Times"

Scene at Soldier's Field, Chicago, During Rehearsal on Opening Day of Barnum & Bailey's Circus, August 22. Only Canvas Used Is for Side Walls Where Performers and Animals Enter and Exit.

there we saw we didn't have a chance.

"So we climbed over the cage that lines the exit. That was easy for us. We're performers. But the public couldn't get out that way. Part of our equipment was lost in the fire and we decided to give up the game."

"But you're back again," I remarked to Herman.

"When the show returned to Sarasota from Hartford after the fire and we were told that the circus was going to play without a canvas top, we changed our minds and decided to continue. I guess it was the tradition of the business—'the show must go on.'"

The performances at Chicago ran to September 5. This was the first time that a major circus has ever been presented in Chicago in the open air and the show averaged from 12,000 to 15,000 at each performance. The only large canvas tent in use at the circus for the balance of the season houses the side show. It has been thoroughly tested with blow torches and burning paper to eliminate fire hazards.

At Chicago, as well as in other cities where the circus played since the Hartford disaster, firemen in uniform are stationed about the side show and an inspector from the Fire Marshal's office in Chicago informed this writer that no smoking would be permitted under the side show tent. "Violators won't be warned," he said. "They'll be immediately ejected!" The only canvas inside the stadium was the circus' own sidewalls used for the entrance and exit of the performers. This wall, Allen Lester, press representative, said, has been thoroughly fire-proofed.

TREATED WOOD HAS SEVERE TEST AT HOT LUMBER YARD FIRE

Planks Are Charred but Do Not Support Combustion in Fast-Spreading Blaze

WHEN three companies of the Madison (Wis.) Fire Department arrived at the city's West Side Lumber Yard to battle a fire which broke out there early on the morning of June 22, it was just another lumber yard fire to most observers. But to the U. S. Forest Products Laboratory it was an "uncontrolled" experiment for fire-proofed lumber—50,000 feet of it—stored there. The fire-proofed material was processed by a Chicago lumber-treating organization at the same time lumber was treated for use in the Navy's blimp hangar program and for ordnance plant construction. The 50,000 feet had been turned over to FPL in August, 1943, for research purposes.

A 120x80-foot building, three trucks, millwork, yard lumber, and a coal shed were destroyed before three companies of firemen put out the blaze. The fireproof lumber did not burn in the three-hour fire; it only charred.

Facilities at the West Side Lumber Yard consisted of a storage shed facing south through the center of which ran a driveway and on either side of which were two tiers of lumber storage bins. To the west of the storage shed was a single-story wing, the south end used as an office. The balance of the space was used for storing fabricated items. To the east, where the fire presumably originated, was another one-story wing which had some shop equipment in it. Farther to the east were a number of coal storage bins.

The treated lumber was stacked in ten bins west of the driveway. (Treated lumber in upper bins dropped down upon the lumber in lower bins when fire caused the collapse of untreated timbers supporting the upper tiers.) In addition to treated lumber, about 5000 pounds of lignin was stored in one of the bins.

When company No. 7 of the fire department arrived at the site of the fire, shortly after 6 a. m., flames were reaching the roof of the main storage building. A northwesterly wind had spread fire along the coal sheds on the south side of the railway siding. By this time, the heat was so intense that a windshield on a fire truck, parked fifty feet from the flaming storage building, was broken. When No. 4 company arrived, the main roof had fallen in and flames were sixty feet high. This company took over protection of sheds and dwellings near the yard and No. 7 directed efforts to extinguish the flames that communicated fire to the coal sheds.

There was little difficulty in extinguishing flame at the ends of the stacks of fire-resistant lumber, after fire in the untreated material which had fallen on and around it had been extinguished. An officer of the fire department said that he was aware while fighting the fire that the tops of the piles of flame-proofed lumber were not as badly charred as the east ends of the same lumber, supporting the belief that the flaming untreated lumber and lignin added to the "uncontrolled" features of the treated lumber's trial-by-fire.

The west shed of the building was the last part to be ignited and the last to be extinguished, so the total duration of the fire here was probably somewhat less than three hours.

With the first inspection, Forest Products Laboratory officials believed the fireproofed lumber might be ruined for technical purposes, but further examination showed that charred ends of the timbers can be removed and the original purpose of experimentation carried out.

Last August, at the same time the fireproofed lumber was sent to FPL for testing purposes, several thousand feet of the same material was turned over to Underwriters Laboratories, Inc., Chicago, where extensive experimentation has already been carried out.

Chief Adolph Fernelius Dies

Adolph F. Fernelius, former Chief of the Lincoln Park, Mich., Fire Department, passed away on September 13, following a lingering illness which caused his retirement from active duty on November 29, 1943.

Chief Fernelius was a member of the department for nineteen years, seventeen of which he served as chief. He is survived by his mother, his widow and three children.

The Cover Picture

One person is dead, seven are missing, and four were injured in a fire which completely destroyed the thirty-four-year-old Hotel Alabama in Anniston, Ala., on September 17. The photograph shows the plate window of the corner drug store as it crashes to the ground as flames roared through the hotel.

Evenly Stacked Material at Left in Picture Above Is Leftover Fire-Proofed Lumber from Navy Blimp Hangars and Is Evidence of Effectiveness of High Grade Fire Retardant Chemicals

WESTERN CHIEFS URGE CHANGES IN FIRE LOSS ESTIMATING

Believe Present Methods Inaccurate and Lead to Misuse of Loss Records

By Chief Albert J. Sullivan*
San Francisco, Calif.

WE often hear fire losses stated, for instance the annual fire losses as compiled by the National Board of Fire Underwriters, which are accepted everywhere as correct, and which unquestionably are the nearest to accurate figures available at present.

These figures, however, are not true reports of fire losses, but a record of the losses paid by insurance companies to their respective clients, plus an estimated percentage to cover uninsured losses.

Chief Alderson of Los Angeles, and his Southern California colleagues, at their conference of June 14, 1944, approached the subject in a very proper manner by first raising the question of what constitutes a "fire loss."

Secondly, they quite properly pointed out that in order to be of any value, these fire losses will have to be determined by a uniform method, or as Chief Alderson's group calls it, "a standard basis."

To find a standard basis for determining fire losses, a formula which adequately covers the large field of circumstances which necessarily enter into the accurate appraisal of fire losses, and which when applied in Chicago will yield the same result as in San Francisco, is not going to be an easy matter, but I would not go as far as our Southern California colleagues, who say that it is an impossible task. I would change the word "impossible" to "difficult."

The Chief of the Los Angeles Fire Department called together a group of Fire Chiefs from the southern section of the State of California, and in the ensuing discussion of this problem several questions were raised:

What standard to use?
What form to use?
Who provides this standard and form?
What to take as losses?

The discussion of these questions resulted in the group arriving at a decision: "In order that fire losses may be comparable it will be necessary to establish a standard form or a standard basis for the recording of these losses."

What do we mean by standard basis?

Referring to the problem on the board "To establish a standard basis for fire departments to use in determining fire losses," the conference leader developed from the group and placed on the board the following:

What constitutes a fire loss?

1. Damage to building and contents by fire.
2. Damage to building and contents by water because of fire.
3. Damage to building and contents by heat and smoke.
4. Damage to building and contents by departmental operations.
5. Damage to building and contents by explosions.

What value do fire loss records have and should they be maintained?

Advantages

1. Chief can review the activities of his individual department.
2. May be a protection to wild and exorbitant claims by the press.
3. Advantageous to obtaining budget if high.

Disadvantages

1. Impossibility of making an accurate estimate.
2. May lead to unjust comparison between cities and years of operation.
3. Detrimental to obtaining budget if low.
4. Misleading to the public.
5. Useless expense of time and effort.
6. They are not worth the paper upon which written under present methods.
7. Estimates given for publication permit the assured to quote an official figure, and to make claims in excess of losses.
8. Departments wishing to keep records, may use the following classifications: Nominal, Substantial, Total.

In the discussion that followed on the value of fire loss records it was brought out that many more points could be listed in the disadvantage column but none could be placed in the advantage column. It was further pointed out that unfair advantages were taken of fire departments through fire loss records, by pressure groups, with no thought being given to the many other things that must be taken into consideration, a few of which are listed here:

1. Delayed alarms.
2. Undermanned departments.
3. Obsolete and run down equipment that is difficult to repair.
4. Inflation of property values.
5. Overcrowded housing condition creating an extra hazardous situation.
6. Payment of total loss on insurance policies for reasons of good will where no total loss occurs.
7. Extra hazardous situation by reason of taxing worker and machinery beyond their limits in industry.

It was the unanimous decision of the group that a resolution be prepared for submission to the International Association of Fire Chiefs at their next convention. This resolution to be submitted at a panel discussion on fire loss records:

"WHEREAS, it is impossible to make an accurate estimate on fire losses due to the many factors involved that are beyond the control of the fire department, and

"WHEREAS, the publication of fire loss records may lead to unjust comparision between cities and years of operation, and

"WHEREAS, fire loss records are detrimental to obtaining a budget sufficient for the proper operation of the fire department, and

WHEREAS, the inaccuracy of fire loss records is misleading to the public and may place the efficiency of the fire department in a false position, and

"WHEREAS, fire loss records are not worth the paper upon which written under the present methods, now therefore be it

"RESOLVED, since the present methods of keeping fire loss records have no value, are inaccurate, confusing and based on items not comparable or equitable, and since it is impossible to develop a method to use for comparative purposes, we, the California Fire Chiefs' Conference, Southern Division, in conference assembled in the City of Los Angeles this 14th day of June, 1944, do recommend that the International Association of Fire Chiefs go on record recommending that cities keep their own fire losses in their own way and for their own purposes, and be it

"FURTHER RESOLVED, that the International Association of Fire Chiefs go on record as being opposed to the publication of loss records, and be it

"FURTHER RESOLVED, that the National Fire Protection Association and the National Board of Fire Underwriters be requested to adopt the same policy."

Another thought which I believe has not yet been given enough consideration is the possibility of charging an authority, other than either the fire department or the Board of Fire Underwriters and their representatives, with the responsibility of determining fire losses; some fact finding body which has no personal interest to promote.

In summing up the entire subject, I would state that a correct and unbiased knowledge of actual fire losses is necessary to justify the fire service. Up to the present, the National Board of Fire Underwriters' figures of paid fire insurance losses plus an estimated arbitrary percentage to cover uninsured losses, have served us, but as the knowledge gains ground what these figures actually are, there is an ever growing demand for a true record of the actual fire losses.

Present existing facilities and methods provide no adequate formula by which satisfactory and uniform results can be obtained.

The International Association of Fire Chiefs, I am confident, will not go on record as being in favor of publishing incomplete or misleading fire loss figures, and I feel that until a satisfactory formula has been developed, the Association should not sponsor any published fire loss figures.

*From a report presented before the Annual Conference of the I.A.F.C., Grand Rapids, Mich., August 28-31, 1944.

Pennsylvania Firemen's Training Conference

The Sixth Annual Firemen's Training Conference, a feature of The Fire School, Public Service Institute, Department of Public Instruction of the Commonwealth of Pennsylvania, was conducted during the period, August 7-12, 1944. The sessions were held in the Lewistown, Pennsylvania, High School while the evolutions were performed in the yard adjoining. "Art" Espey, Ad-

(Continued on page 766)

At the Grand Rapids Conference of the International Association of Fire Chiefs

Left—the Louisiana Delegation, l. to r. front: Fred LeBlanc, State Attorney General, Baton Rouge; Chief R. A. Bogan, Baton Rouge; E. J. Kennedy, Jr., Baton Rouge; Chief Arthur Hansen, Westwego; John Perrin, Westwego. Rear: Chief Louis F. Kihneman, Morgan City; Chief Fernand Privat, Rayne.

Right—Wisconsin Delegation, l. to r.: Chief Heup, Neenah; Chief R. A. Porter, Portage; A. C. Miller, Wisconsin Rapids; Chief Edwin Bryant, West Allis; C. E. Goodman, Kenosha; Aug. Sokoll, Sheboygan; Chief Julius Seiy, Cudahy, (State Vice Pres. I.A.F.C.); A. J. Rahn, Two Rivers (Pres. Great Lakes Div.); Chief Ray Gee, South Milwaukee; Chief Peter Steinkellner, Milwaukee and Harry Betzhold, F. D. Mechanic, West Allis.

Some smiling faces at the Grand Rapids Conference of the International Ass'n of Fire Chiefs. Left: Edward C. Rumsey, Chief Consultant, University of Michigan Fire Training, Detroit; Rev. John Coleman, Fox Lake, Ill. Right, l. to r.: Chief Geo. R. Robinson, Yuma, Ariz.; Chief Daniel B. Tierney, Arlington, Mass., Secretary-Treasurer I.A.F.C. (wearing Chief Robinson's hat); Chief Samuel J. Pope, Boston, Mass., newly elected President of the I.A.F.C.; Chief Art J. Baker, Lewiston, Mont., retiring President I.A.F.C.

Top: Harry Cavanagh, American District Telegraph Co., New York City and A. C. Hutson, Asst. Chief Engineer, The National Board of Fire Underwriters, New York City.

Center: Chiefs Ray Tiller, Waterloo, Ia.; D. W. Brosnan, Albany, Ga.; and W. H. Palmer, Charlotte, N. C.

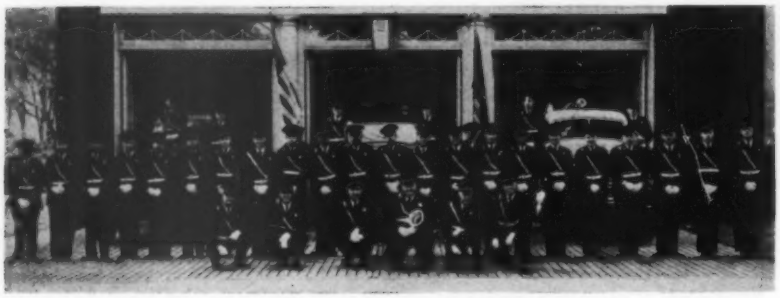
Bottom: R. W. Joyner and his son, R. G. Joyner, representatives of the Eureka Fire Hose Div., U. S. Rubber Company, Dallas, Tex.

The Ladies—God Bless 'Em.

Partial view of the luncheon party given to the ladies of the International Association of Fire Chiefs conference in Grand Rapids, by Mrs. Kathryn Lemon Counts of the Oren Fire Apparatus Company, Roanoke, Va. Chief Edward Palmer, Grand Rapids (in uniform) was the honored guest.

Below: "Eastern Regulars" who attended the I.A.F.C. Meeting.

SNAPPED AT THE I.A.F.C. CONFERENCE IN GRAND RAPIDS, MICH., ON AUGUST 28-31



Members of the Potsdam Fire Department as They Appeared in Front of the Central Fire Station Before a Recent Parade.

Kneeling in the front row, left to right, are: Ex-Chief Almon F. Frank, Ex-Chief Ralph I. Taylor, who died this year; First Assistant Chief Martin L. Sullivan, Chief James J. Doyle, Ex-Chief Fred H. Morgan, and Ex-Chief Dan Charters. The department also has an emergency truck not shown in the picture.

Potsdam Fire Department Has Eighty-seventh Anniversary

Covering an area which extends from the St. Lawrence river valley to the foothills of the Adirondack mountains in Northern New York state, the Potsdam fire department, among the pioneers in the field of rural fire fighting, on July 27, 1944 marked the 87th anniversary of its organization.

The department with J. R. Jackson as chief had 52 members and two hand engines when it started operation on July 27, 1857. Organization of the department today is substantially the same as it was back in the late 1800's as follows: Frontier Hose Company No. 1, formed when the charter was adopted; Racquette Hose Company No. 2 formed March 6, 1873; Relief Hose Company No. 3, formed April 25, 1867, and Hook and Ladder Company No. 1, formed April 25, 1887.

A total of 830 men have served as members of the Potsdam fire department, 29 of them as chief, since its organization. A number of them have gained recognition in the field of national politics, among them being the late Congressman Edwin A. Merritt, Jr., and Bertrand H. Snell, former minority leader of the House of Representatives, who retired six years ago.

Others through their activities have become widely known in firemanic circles throughout New York state. These include the late William J. Coleman, former chief, president of the Northern New York Volunter Firemen's association, president of the Firemen's Association of New York State and superintendent of the Firemen's Home at Hudson N. Y.; Levi L. Rogers, present superintendent of the Home who held similar offices; Alfred H. Morgan, former chief and past secretary of the Northern New York association and James J. Doyle, present chief, who is vice-president of the Northern New York association and vice-president of the St. Lawrence county Fire Defense Training School.

The department has witnessed the transition from hand engines to steam and horse drawn apparatus to motorized equipment, the first piece being a Brockway hose and chemical truck purchased in 1915. The village bought a pumper in 1925 and rebuilt the hose wagon into a ladder truck. The firemen purchased a 500 gallon triple combination Sanford pumper in 1928 with their own funds to provide fire protection for a rural area extending nearly 45 miles in some directions from Potsdam. This truck was replaced in 1940 by a new pumper, bought with department money.

The apparatus today consists of a 750 gallon American LaFrance pumper, a city service ladder truck, trailer type, with 235 feet of ladders, and two trucks owned by the firemen, a Sanford pumper and a Packard squad truck. The village water system includes three electric pumps of 750 gallons each delivering water to 124 hydrants with a standpipe of 400,000 gallons which equalizes water pressure at all hydrants.

Keeping abreast of modern trends the department has a wide variety of equipment which includes safety belts, smoke masks, salvage covers, fog nozzles, an inhalator, stretchers, and a steel boat complete with grappling hooks for use in drowning cases. A portable flood lighting system will be purchased when government restrictions are lifted and priority has already been granted for the purchase of a high pressure fog unit to be installed on another piece of equipment.

Present membership is 59 men, including three paid drivers Herman F. Hiter, a veteran of 20 years service, Leonard McPhail, and William Jardine, son of a former chief. There are 18 members serving in the armed forces.

The fire station has always been at its same location in Main street, centrally situated a few blocks from the business section. The apparatus today is housed in a modern brick building.

SANFORD D. DEWEY.

Atlantic City Fire Damages Twelve Stores and Hotel

A general alarm fire swept the lower floors of the 12-story Knickerbocker Hotel, Tennessee Avenue and the Boardwalk, in Atlantic City, N. J., late September 6, wiping out an entire block of stores and charring 200 feet of the Boardwalk.

The soaring flames burned across the wide wooden Boardwalk, and set fire to the Central Pier entrance. Hundreds of visitors on the pier managed to escape before the fire blocked the entrance. The damage was unofficially set at $200,000.

The three alarms brought out all fire apparatus in the resort, except that withheld for an emergency, and firemen from Margate, Ventnor and Pleasantville. Fire fighting crews fought the blaze for several hours before it was brought under control. A sea breeze swept the flames through the frame buildings lining the Boardwalk between Tennessee Avenue and St. James Place.

Fire Chief Rex Farley said the flames started under the Boardwalk near the entrance to the hotel at 3:25 P. M., apparently from a short circuit. Within fifteen minutes the heat from the fire was so terrific that firemen had difficulty approaching to fight the blaze.

Stores damaged in the fire included a drug store, apparel shop, restaurant, candy store, exchange of the New Jersey Bell Telephone Co., two novelty stores, a jewelry store and a rolling chair rental establishment.

Fire Sweeps Atlantic City Boardwalk.

A general-alarm fire which turned a half-block section of the Boardwalk into a raging inferno swept through the lower floors of the Knickerbocker Hotel in Atlantic City. Here fire fighters work to get the fire under control.

SHORT CUTS AND GADGETS

WITH this issue, FIRE ENGINEERING inaugurates a new monthly feature—a clearing-house of useful information—hints and helps, ways and means to do things better, in fire fighting and fire prevention. "Short Cuts and Gadgets" will be written by, and for readers of FIRE ENGINEERING. It is open to everyone. The editors will pay $1 for every idea published—$5.00 if accompanied by a usable illustration. All contributions to remain the property of FIRE ENGINEERING. Address "Editor, Short Cuts," FIRE ENGINEERING, 24 W. 40th Street, New York, N. Y.

Cellar Pipes and Distributors

A one-and-one-half-story "taxpayer" in a small town was almost completely burned out because firemen were unable to get at the fire in the cockloft either from the roof or by "pulling ceilings" from below. A chief officer of a large city fire department who happened to be visiting nearby and saw the ruins the next day, asked the local chief if he had a cellar pipe. The chief said yes, they had. *"Did you attempt to operate it through the roof to prevent extension?"* asked the visiting chief. *"Why, no,"* was the reply, *"we've only used that pipe but once, years ago, and that for a basement fire; fact is, it never occurred to any of us to attempt to use it."*

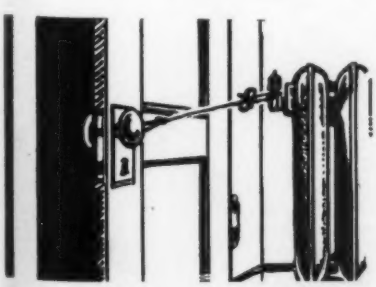
"Try it next time," was the parting injunction of the "professional."

J. J. D.

* * *

Handy Piece of Cord

Former Batt. Chief Fitzgerald of the "Iron Men" of the 3rd Battalion New



York Fire Department, used to carry a short piece of heavy cord or clothes-line coiled, in his turnout. He used this in numerous ways, to tie back a door which he did not want to close behind him in a smoky area, or where a passage must be kept free; to serve as a guide-line in a smoke-charged area; as a tourniquet, etc. He said he hit upon it after he was knocked out once by having a door with spring lock close on him after he had crawled into a dark, smoky room to rescue a dog reported to be there. Before he could find a window or get back to the door he was "kaput" and only the lucky arrival of his driver who missed him, resulted in his removal in time to save his life. After that he never entered a room without tying back the door to a radiator, pipe or piece of furniture. The line also aided him to more easily locate the door.

(Other adaptations of this idea will be published in a later issue.)

INFORMATION WANTED

FIRE ENGINEERING is continually being asked for information on how sliding pole holes are protected so that firemen cannot inadvertently fall through the apertures. This protection may take many forms, including the use of low-level lighting. The Editor of "Short Cuts" invites readers to send in detailed descriptions of how their poleholes are protected—preferably with illustrations, either photographs or simple sketches.

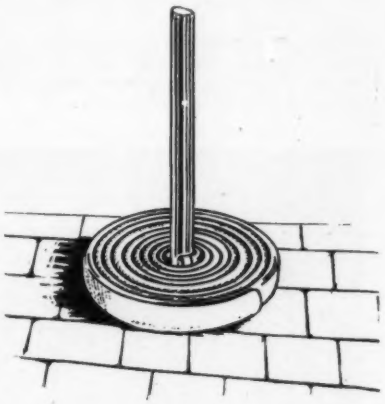
Radio—"Piped" and Otherwise

It is interesting to note the increasing use of radio—and "piped radio," by the fire service. In Bridgeport (Conn.) firemen in the station houses have ample time to "get set" for an alarm through the use of "piped radio" and amplifiers. The fire alarm dispatcher broadcasts a warning to all companies that a box alarm is about to be sent out. He does this while the box number is being set up on the regular fire alarm transmitter. This amplified warning not only saves precious seconds in the stations, but it makes for more accurate receipt of alarms and response by companies.

Editor's Note: Many cities have developed their own techniques in radio communications; some have originated equipment that is highly original and effective. If you are in this category—or know of such improvements—why not tell the story to the Editor of "Short Cuts"?

Landing Mat

Several departments, including Memphis (Tenn.) and Roanoke (Va.), have developed an unusual landing mat for use with sliding poles. This consists of a length of discarded 2½-inch hose,



minus couplings, coiled tightly around the bottom of the pole. An adhesive is used to prevent the separation of the coils and to fasten entire coil to pole. The coil can be left in its natural finish or painted on the outside surface. No adhesive or paint, however, should be used that will harden the coil, or its top surface. This "Short Cut" has proved useful during the period when regulation rubber landing mats were unobtainable.

S. W.

* * *

Standardization

A number of cities report that they have standardized not only on the tools and equipment for different types of fire apparatus—pumpers, hook and ladders, etc., but in addition to using the same equipment on trucks of the same classifications, they have standardized the locations and mounts for this equipment. It has always been a moot question how and where accessories should be mounted, say on a combination pumper, or service truck. One company will have double-male and double-female couplings on posts on running boards. Others stick them away in compartments, or on shelves with posts on the side of the apparatus. The Editors would welcome ideas and comments from readers on all important phases of standardization.

* * *

Truckmen Responsible for Own Axes

From Chicago comes information that truckmen of that city's fire department each have their own regulation fire axe, which they must keep in serviceable condition at all times. Going off shift, the men remove their axes and on-coming truckmen place their axes in the prescribed places on the apparatus. We have not verified it, but it is said the equipment is initialled for identification by the truckman to whom it is allotted. So far as we know, Chicago is the only city that follows this practice.

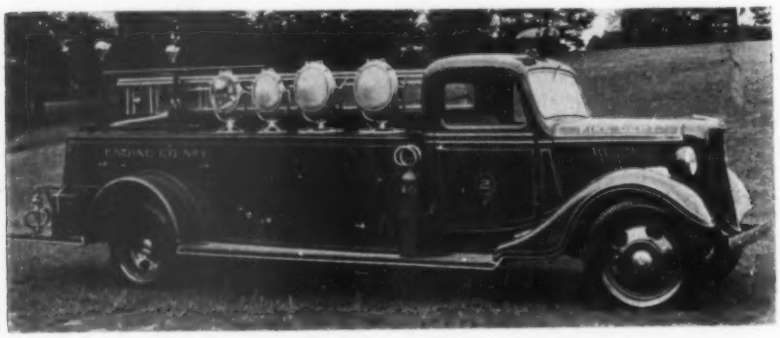
J. McM.

WITH OUR READERS

What Cooperation Can Do

To the Editor:

The photograph herewith is of our new apparatus which was recently completed, but for a few small items that have not been delivered as yet.



Apparatus Recently Added to Mountainside Fire Department

This apparatus was built entirely by the members of Engine Company No. 1 of the Mountainside Fire Department, a volunteer organization.

The men worked every Sunday afternoon and nights for six months to do this job for which they can be justly proud. During this time they also raised money for their share of the cost.

This is an indication of what can be done if there is cooperation between the official bodies and the firemen. The firemen purchased the chassis for $200.00 and our Mayor and Council appropriated $900.00 for materials and equipment. Some of the equipment was transferred from our overloaded pumper.

The chassis is a 1936 Ford and was completely overhauled before we built the body. The apparatus was designed by myself and carries 1,000 feet of 2½-inch hose, 600 feet of 1½-inch, a 24-foot ladder, a 14-foot roof ladder, flood lighting equipment, two carbon dioxide extinguishers, two knapsack pumps, two pike poles, two axes, two crowbars, a foam outfit, a soda and acid extinguisher, twelve brooms, nozzles, gas masks, ropes, gloves, wire cutters and the necessary boots and helmets. There are compartments for twelve salvage covers, small tools and a large compartment for a portable 200-gallon pump. We have not all the salvage covers yet, nor do we have the portable pump as they are not manufacturing the type we wish at the present.

Yours truly,
H. E. HONECKER,
Chief, Mountainside, N. J.

Novel Method of Controlling Line

To the Editor:

We were recently called in to assist the Brentwood Fire Department in extinguishing a fire in the packing sheds of Rosenberg Brothers, along with the departments of Oakley, Byron and the Byron Hot Springs Army Camp. We fought the blaze for three hours and were successful in confining the flames to one building. The fire which caused damage estimated at between $100,000 and $125,000, destroyed the company's supply of dried fruit as well as shooks for making boxes, 250 sacks of sulphur and trays used in the dehydrating process.

This fire again demonstrated the value of mutual aid as practiced in this county. All equipment from cities and fire districts are dispatched by radio from a central headquarters under Chief Vierra of the Martinez Department.

When I arrived at the fire, I discovered a shortage of manpower in handling the lines. The photographs included herewith were taken by Engineer J. McBride, a member of our department. The left view shows seven men on a 2½-inch hose line, with an 1⅛-inch tip. To make available additional manpower I suggested that ladder straps be used to make a circle of hose, enabling one man to hold the hose and accomplish the same objective as the seven. The arrow in the photograph on the right points to the circle of hose.

The steam plant at the left in both photographs was saved because one man with a 1½-inch line kept this building cool and prevented ignition of the wooden frame supporting it.

Sincerely,
CHARLES SWEENEY,
Chief, Antioch, Cal.

From the Service

To the Editor:

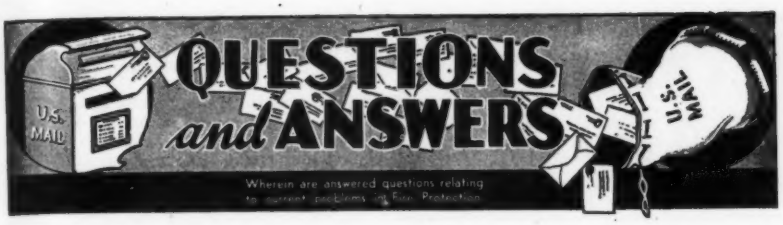
I wish to express my appreciation of a fine and valuable publication, FIRE ENGINEERING. For a number of years I have been receiving this magazine from you and I have found it to be most informing on all matters pertaining to fire engineering. It is gratifying to know that some people realize the necessity of precaution and fire fighting equipment in dealing with uncontrolled fire. You are constantly urging cities and towns of this country to realize the importance of having adequate fire fighting equipment. May they some day appreciate your noble efforts!

I have been all over the globe since having been called into active duty four years ago. FIRE ENGINEERING has always followed me, though sometimes our mail has been received a month late. It was always a source of pleasure to read through my copy. FIRE ENGINEERING has kept me close to the things in which I am interested, even though I am thousands of miles away from the States.

Sincerely,
S. G. HEAVER,
Signalman 1st Class, U. S. N.

Looped Line Facilitates Handling of Nozzle

Shortage of manpower led to the adoption of a novel method of stream control at Antioch, Calif. At the left are shown seven men handling line. At the right, where hose was looped and secured with ladder straps, is shown one man handling the line.



Pumper Capabilities

To the Editor:

1. A length of 2½-inch hose, with a given nozzle and nozzle pressure, requires 100 pounds engine pressure Would a second single line of the same length and size, equipped with the same size nozzle require twice the engine pressure in order to yield the same flow of water and nozzle pressure from both the single lines?

2. What would be the maximum possibilities for a 500 gallon pumper in the following layouts?

a. Two single 2½-inch lines, one equipped with a ¾-inch nozzle and the other with a 1⅛-inch nozzle at 25, 50 and 75 pounds nozzle pressure.

b. Two 2½-inch lines siamesed into one 2½-inch line, one line equipped with a ¾-inch nozzle and the other equipped with a 1⅛-inch nozzle, at 25, 50 and 75 pounds nozzle pressure.

c. One 2½-inch line wyed into two 2½-inch lines with the same size nozzles and at the same pressures as in the preceding layouts.

d. One 2½-inch line wyed into two 1½-inch lines with a ½-inch nozzle at 25 and 50 pounds nozzle pressure. How many of these lines could be run off the pumper?

e. Two lines of 2½-inch hose siamesed into a deluge set with a 1¼-inch nozzle, a 1½-inch nozzle and a 1¾-inch nozzle at 75 pounds nozzle pressure.

f. Three lines of 2½-inch hose siamesed into a deluge set equipped with a 1¼-inch nozzle, a 1½-inch nozzle and a 1¾-inch nozzle at 75 pounds nozzle pressure.

S. C. H.

Answer: If the second duplicate line were attached to a pumper, the engine pressure would not have to be increased, but the speed of the pump would have to be stepped up to give the additional flow.

For identical layouts, identical engine pressures are required to give the same nozzle pressures.

The answers to question 2 (a) are as follows: with a single line with a ¾-inch nozzle and a single line with a 1⅛-inch nozzle, both 2½-inches in diameter, at 25 pounds nozzle pressure, 1600 feet of hose could be used. At 50 pounds pressure, 600 feet, and at 75 pounds pressure, 200 feet. These figures are approximat

Answers to (b), (c) and (d) cannot be given, because it is not stated what percentage of the line is single line and what percentage parallel line.

Answers to (e) are as follows: With 1¼-inch nozzle at 75 pounds nozzle pressure, about 700 feet of hose could be used. Using a 1½-inch nozzle, about 100 feet of hose, and using a 1¾-inch nozzle, the engine could not make this nozzle pressure for it would have to discharge 787 gallons per minute which is more than its rated discharge.

(f) Where three parallel lines of 2½-inch hose are used, and 1¼-inch nozzle at 75 pounds nozzle pressure, the stretch would be 1,500 feet. If 1½-inch nozzle is used at 75 pounds, the stretch would be 200 feet, whereas it could not maintain 75 pounds from 1¾-inch nozzle.

Foam from Animal Blood

To the Editor:

I recently read in a magazine article that the Navy was using foam made of animal blood. Is this true?

W. P. B.

Answer: Commander Harold J. Burke of the Bureau of Ships, U. S. Navy, Washington, D. C., writes as follows:

"I am afraid that this is largely another case of the 'wayward press' getting 'slightly off the beam.'

"The facts briefly are as follows: As you well know, the Navy has for some time past been using a liquid foaming agent in producing the so-called mechanical types of foam. In this respect, we have been quite successful. The rapid and continued expansion of the Navy put a very heavy drain on the production facilities of our available source of supply of this material. As a consequence, we started to investigate another protein that could be used for manufacturing foam liquid. In the course of our investigation, Armour and Company submitted a protein made from animal blood. We tested this at one of the fire schools and determined that we could make foam, but the present state of the art had not been developed to a point where we were willing to accept it as comparable to our present product. Other than the test specimens referred to above, the Navy does not use any foam solutions made from animal blood."

Overcoming Back Pressure, Etc.

To the Editor:

1. In comparing the back pressure as illustrated on Page 13 of "Fire Department Hydraulics" with the back pressure of the Woolworth Building in question, we assume that three engines are siamesed into the standpipe When they are ready to pump does each have to overcome the back pressure of 338 pounds, or would each have to pump 113 pounds in order to cause water to flow at a rate of 1 pound, neglecting, of course, the standpipe friction loss? In either case, why?

2. In relay pumping, how can we estimate the capacity at which the first pumper must operate, or the pressure, in order to know at what rate it will deliver water to the second. Does it depend on the entire length of both lines and the nozzle tip used on the end?

F. K. K.

Answer: Answering Question 1, the back pressure at each engine will be 338 pounds, where the two engines are independently siamesed into the standpipe. The pressure at the siamese connection is 338 pounds due to the elevation of the water in the standpipe, and this pressure would be exerted against any or all engines which attempted to force into the standpipe.

2. The capacity at which the first pumper must operate is only determined by the nozzle tip, and the desired nozzle pressure. The first engine can only give what water passes through the second engine on to and through the nozzle. Hence, the quantity of water that the second engine can discharge through the layout is the same quantity of water that the first engine must supply to it; neither more nor less will answer.

S. A. E. Horsepower and Brake Horsepower

To the Editor:

Should there be a variance in the actual horse-power as stamped on the motor by the manufacturer and the S. A. E. horse-power as determined by the formula: Bore x Bore x No. of Cylinders ÷ 2.5? J. E. S.

Answer: The horse-power stamped on the pumper is probably the brake horse-power. This differs very much from the horse-power of a motor as determined by the S. A. E. formula.

The S. A. E. formula was originally developed by the Association of Licensed Automobile Manufacturers. When this organization went out of the picture, the Society of Automotive Engineers took over and endorsed the formula. It is, as you state: H. P. $= D^2 \times N \div 2.5$, where D is the diameter, or bore, of the cylinder; N, the number of cylinders, and 2.5 a constant.

This formula is based upon an assumed piston travel of 1,000 feet per minute, and a mean effective pressure of 90 pounds per square inch in the cylinders.

With the change in design to high speed, high compression motors, the S. A. E. formula's accuracy, of course, drops.

Brake horse-power of a motor is determined by the use of a prony brake, or a dynamometer, which actually indicates the horse-power delivered by the motor, no matter how many cylinders it has nor what the dimensions of the cylinders.

For Practical Discussion of Current Fire Department and Fire Management Problems

THE USE OF FOG OR SPRAY NOZZLES

THE fire chiefs taking part in this discussion on the use of fog or spray nozzles were almost unanimous in their praise of the nozzles. The nozzles have been used quite generally on oil and grease fires, on fires in mattresses, upholstered furniture, automobiles, rubbish, in attic or cellar fires where there is a minimum of oxygen and where the fire has not gained sufficient headway as to make imperative the use of solid streams.

Many of the chiefs warned that fog nozzles are only used for specific types of fires and should not take the place of solid streams.

One of the important uses of fog nozzles is to clear the atmosphere of heat, smoke or hazardous fumes, allowing the firemen to advance with their hose lines. One chief reporting used a fog nozzle to absorb ammonia fumes when his men entered an ice plant to shut off a leak that defied all other methods.

Readers are invited to send in their comments on this subject which will be continued in the November issue. Address replies to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

Discussion of the Topic

Victor H. Veit, Chief, Stamford, Conn.: We use spray or fog nozzles at every opportunity and that is quite often; first, for the protection of the men, because a fog nozzle has a tendency to produce a screen in front of the men whether working inside or out. This screen also protects them against heat, smoke, fumes and poisonous gases.

I also think the fog nozzle is more efficient than the solid stream in the extinguishment of the majority of fires which have not gained too much headway. I have found it effective in cellar fires, attic fires, enclosed fires of all types where there is only a minimum of oxygen, tar pots, gasoline fires and automobile fires.

The spray nozzle has made a great contribution to the reduction of damage heretofore caused by water.

Joseph E. Scanlon, Chief, Lynn, Mass.: Every company in the city is equipped with one spray nozzle. We have found them effective and have used them many times.

We have a standing rule in our fire department that the first line laid by all companies must be equipped with this type of nozzle. As our nozzles are adjustable from spray to solid stream, it is left to the judgment of the operator to apply that which is most effective. By this method, we feel we are covering any situation that confronts us. We find the spray very effective in ventilating wherein an opening can be made for smoke and gases to leave the building. Furthermore, we find considerably less damage by water to the contents. Spray nozzles in many instances have a greater coverage for the flash type of fire.

J. Franklyn Dunn, Chief, Middletown, Conn.: We carry 1½-inch and 2½-inch fog nozzles on all trucks and find them very effective on certain types of fires. For instance, you would not use a fog nozzle for a dwelling fire in a partition that had a good start. The fog nozzle is a good nozzle for the purpose for which it is meant.

We have used them on oil fires, and on cellar fires that have not had too much of a start. We lay in with a fog nozzle line, backed up by one or two straight streams, as fog forms a curtain to push smoke and fire in front of the men and gives them a chance to knock it down with the straight stream. Fog alone will not put out a good cellar fire because it does not penetrate like a straight stream.

M. J. Shea, Chief, Fitchburg, Mass.: We carry fog nozlzes, but have not as yet had great use for them. When we have used them, we have found them effective.

They are used principally on oil and gasoline fires.

They possess great advantage in smoky cellar or basement fires which have not gained great headway so as to require a solid stream. After ventilating the cellar or basement, the smoke can be driven out by the use of the fog nozzle, making working conditions much better.

Chris Smith, Chief, Muskegon, Mich.: We have fog nozzles for 2½-inch hose on every one of our pumpers and our booster tanks have fog nozzles on the 1½-inch hose. We have used fog with success a great many times on inflammable liquids, oils and greases. We have also used them with much success on hot inside fires where the rapid dissipation of heat is of first importance.

We have made adaptors to our cellar pipes so that the 2½-inch fog nozzle may be used on stubborn basement fires. I believe that if good judgment, or fire size-up, is used and the fog streams are backed up by solid streams when necessary, the fog stream is a great fire fighting weapon.

A. U. Keller, Acting Chief, Hoboken, N. J.: We have used the fog nozzle very successfully on cotton, hay, and grass fires. We have also found them very effective on closed or canvas-covered trucks, which are loaded very compactly, and also on basement and cellar fires that have not gained too much headway. I find in using the fog nozzle, we reduce our water damage considerably.

Thomas H. Shipman, Chief, New London, Conn.: For some time we have been using spray nozzles entirely on our booster lines, of the type that a 6-foot adapter can be attached for a fine spray. We also have several 1½-inch with 8-foot adapters, as well as three 2½-inch. We use them continually.

We have found the spray nozzles very effective on many different kinds of fires.

We use them on brush fires, chimney fires, oil fires, gasoline fires, tar pots, partition fires, home fires in their early stages, and once they were used in entering an ice plant to shut off an ammonia leak that defied all other methods because of burns.

They have many advantages in all types of fires in their incipient stage, but I believe we must remember that they cannot take the place of solid streams where a large volume of fire exists or where the fire has been burning for any length of time.

H. P. Constantine, Chief, Bangor, Me.: All of our equipment is equipped with fog nozzles. We have found them very effective. They are used on oil, gasoline, flammable materials and chimney fires.

They have the advantage of driving the smoke away from the men while getting at the fire, making it easier to handle a basement fire. They also cause less water damage to the merchandise and materials than would a large stream.

J. J. Fitzpatrick, Chief, Pueblo, Colo.: We have used fog nozzles very effectively on gasoline, oil, or any flash fire, and in attics or basements within the distance range of the fog nozzle.

One advantage is that it can cool a larger area with less water in less time, thereby reducing the water damage.

J. L. Croom, Chief, Wilmington, N. C.: We have used spray nozzles on fires in small gasoline and oil containers. We have found them effective where the fog covered the entire surface of the container.

HERE IS THE QUESTION

To what extent do you use spray nozzles (fog nozzles) in your department?

Have you found them effective?

On what types of fires are they used?

What advantages do you feel they possess over solid stream nozzles in operating on basement or other inside fires that have not gained such headway as to make imperative the use of solid streams?

I can see no advantage in using the fog nozzle where there is no flame as it may create an explosion by forcing in more air onto the smouldering surface. The amount of water used would be insufficient to extinguish the fire. I would prefer a small controlling nozzle on fires at the first floor level or above, as it is possible to ventilate in these areas, thereby lessening the chance of an explosion. On small inside fires, which have not gained much headway, I prefer the spray to the straight stream type of controlling nozzle. This type of nozzle eliminates excessive water damage.

Ben J. Zahn, Chief, Ann Arbor, Mich.: We use fog or spray nozzle to some extent on both 2½-inch and ¾-inch booster lines.

Several years ago when we first acquired two 2½-inch fog nozzles, we attached them to our hose lines and proceeded to use them on all fires, but after several experiences decided there were times when it was important to have a heavy stream. Since then we carry them and attach them when we feel results would justify the use of fog.

We use fog on all grease, oil, and gasoline fires when confined or freely flowing and whenever they are of such proportion that one or two foam extinguishers will not take care of them.

On the smaller lines (booster) we use them for Class A or B fires.

We find the larger fogs give good protection from heat, and generally do a good job of cooling.

E. P. Feaster, Chief, Lincoln, Neb.: Spray nozzles are used in our department on all fires that have not gained sufficient headway as to demand the use of large streams. We have found them very effective in cooling and controlling the spread of fire. They are used on all types of fires that demand the use of water in moderate amounts, and we have found them very effective in helping to control gasoline and oil fires.

The advantages to be gained by the use of spray nozzles over solid streams on basement or other inside fires that have not gained sufficient headway as to demand the use of solid streams, is in the amount of water used in extinguishing fires, holding the water loss to a minimum. It also affords protection to the firemen who are operating the line, as well as cooling and extinguishing a larger area in a shorter period of time.

* * *

The following replies are in answer to a previous question on fire setting by juveniles:

A. C. DuRee, Chief, Long Beach, Cal.: Our city is completely involved in defense activities and due to the enormous influx of defense workers, the juvenile delinquency problem has grown in direct proportion. Lack of parental supervision during working hours has been the main factor for increased fires being started by juveniles. The type of fires started are mainly grass, rubbish in containers and garages where children go to play.

I would estimate that there has been approximately an increase of 300 per cent in the starting of fires by juveniles compared to approximately fifty per cent increase in population over pre-war years. Steps to halt this practice have met with very little success except in housing areas directly under the supervision of the Navy and fine results have been obtained there because the Navy authorities hold the parents responsible for the acts of their children with the possibility of revocation of residence rights if this practice continues; this also applies to false alarms.

I believe the best results can be obtained through the public schools by regular visits of uniformed fire department officers. As to the preschool child, I am at a loss to know the answer as I feel this whole matter is parent delinquency and not juvenile delinquency.

J. K. Piercey, Chief, Salt Lake City, Utah: According to our records there has been an increase of approximately twenty-five per cent in the number of fires set by juveniles since Pearl Harbor. The majority of these cases have involved children under ten years of age.

Our usual method of correction includes meeting with the apprehended child and his parents, pointing out the danger of setting a fire to the child himself and to others as well as the damage and hazard to property. We endeavor to stress the seriousness of the matter by bringing the home and property of the child into the picture.

Cooperation of parents on the whole has been good, and the results have been satisfactory, except in cases where parent delinquency is predominant, where both parents are working and the children are left to the care of others and where the district environment is poor.

In these latter cases there are many "repeaters," which boosts the average, and so the juvenile delinquencies actually are confined in the main to a few regulars. The others are the usual "first timers" incidental to youth.

Cases involving older children and "repeaters" are referred to the juvenile court authorities, and the jurisdiction then passes out of our hands.

A record is kept of each individual case investigated, so there is a case history of each offender for future guidance.

Our department has just instituted a year-round program of public education, which we hope will assist greatly in preventing children and others from starting fires. We have assigned a lieutenant, who is experienced in giving lectures and demonstrations, to direct this program and to present fire prevention talks and demonstrate safety precautions before school children, Boy Scout troops, fraternal organizations and business and civic organizations.

To others confronted with the problem of controlling juvenile delinquency pertaining to the setting of fires, we would recommend the following:

1. Persistent investigations.
2. Education of both parents and children to make them fire-conscious.
3. No leniency toward "repeaters" —that is to say, turn them over to juvenile court authorities for whatever corrective steps may be deemed necessary.
4. Try to gain the full cooperation of parents in correcting delinquencies of their children.
5. Encourage juveniles to become active members of Boy Scout troops and other organizations fostering constructive activities and recreations.

THIS DISCUSSION WILL BE CONTINUED

Due to the large number of Chiefs who contributed their experiences, the discussion on this subject will be continued in the next issue.

Photo by Hugh Walker

Some of the Spectators at the Magnesium Fire Extinguishing Tests Held at the I. A. F. C. Conference in Grand Rapids, Mich.

FALSE ALARMS

"About This Time Every Year His Mother-in-Law Comes on for a Visit!"

Type of Knot

In a first-aid class the instructor explained that the cause of fainting was primarily a fault of circulation and that it could be prevented by getting the head lower than the heart.

"For instance," he said, "if you feel faint, and don't want to call attention to it, just lean over and tie your shoe lace over again."

A woman in the front raised her hand.

"What sort of knot should be used?" she asked.

The engineer was about to register in the small town hotel when a bedbug slowly crawled across the register.

"Well," he said to the manager, "I've been bitten by all sorts of bugs in hotels, but this is the first time I ever saw a bug crawl down to see what room I'll be in."

The doctor had just run the length of the station platform in an effort to catch the train. A porter came along and asked: "Did yo' just miss dat train?"

"No," was the disgusted reply, "I didn't like its looks so I chased it out of town."

The Greyhound driver charged a lady full fare (10c) for her son. He had on long pants.

At the next corner a small boy wearing short trousers, paid only 5c (half fare.)

At the next stop, a lady mounted the bus and the conductor didn't charge her anything . . . The lady had a transfer.

Who Knows Best

Jasper (phoning his father): "Hello, who is this?"

Father (recognizing Jasper's voice): "This is the smartest man in the world!"

Jasper: "Sorry, I've got the wrong number."

He Buried It

A motorist who had a 50-gallon tank of gas in reserve when rationing was introduced, consulted a friend as to what to do about it.

"Bury it," was the reply.

Accordingly, he gave his gardener instructions next day to dig a hole for it in a secluded spot.

After a time the gardener returned.

"I've buried the gas," he said "What do you want done with the tank?"

A foreman, while watching a ship carpenter working on the side of a boat noticed that the workman would drive a nail into the side of the boat, then another, and then he threw one over his shoulder. When this continued, he called out to the workman, "Hey, you, why are you throwing those nails away?"

Back came the prompt answer, "Why they have the heads on the wrong end," to which the foreman replied, "You darned fool, save all that kind. We use those on the other side of the boat."

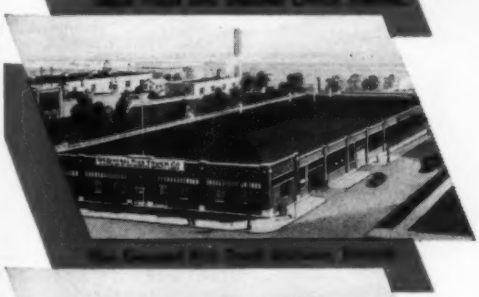
Farmer Appleknocker retired and moved to the big city. In the morning, after spending the first night in the new home, his wife said: "Well, Pa, hain't it about time you was getting up to build the fire?"

"No, siree," replied the old gent. "I'll call the Fire Department. We might as well get used to these city conveniences right now."

"I'm Sorry I Ever Mentioned That a Straight Line Is the Shortest Distance Between Two Points!"

BEHIND THIS DOOR

Stands 40 Years of FIRE PROTECTIONEERING



In war and in peace, for more than 40 years, buyers of fire protection equipment have learned to say "if it's General it's dependable."

This is because the men and women of General Detroit, from top management to production line, are *fire protectioneers*. Their skill and extensive plant facilities enable them to produce fire extinguishers and fire fighting apparatus that are *engineered* to do the job of fighting fire quickly, safely, and economically.

Leaders of American industry who have bought and used General Detroit products know by actual experience what this means. The engineering research and proven production capacity of this forty year old firm are at your service in the fight to reduce and eventually eliminate the menace of fire loss.

Victory over fire is important too!

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The General Detroit Corp. manufactures a complete line of fire fighting equipment including ***CO₂/Foy*** *Carbon Dioxide Fire Extinguishers. Fire can't breathe when* ***CO₂/Foy*** *goes into action!* ***CO₂/Foy*** *Carbon Dioxide Fire Extinguisher quickly, surely smothers the flame. Particularly efficient on gasoline, oil, electrical, paint, and chemical fires. Leaves no stain on clothing or premises. Write for descriptive literature.*

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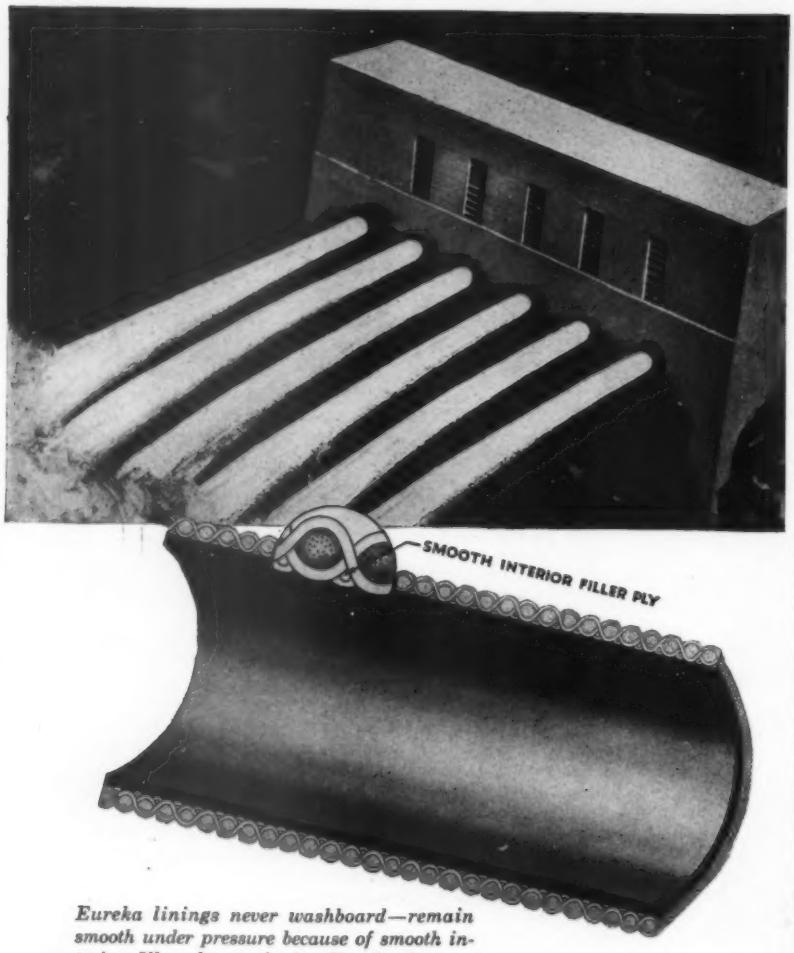

Eureka linings never washboard—remain smooth under pressure because of smooth interior filler-ply—exclusive Eureka feature.

The SMOOTH-INTERIOR FILLER-PLY woven into Eureka Fire Hose streamlines the inner jacket. Consequently there are no valleys into which the rubber lining can recede when pressure forces the lining against the jacket. In Eureka streamlined fire hose you are always sure of a smooth waterway...minimum friction loss...maximum nozzle pressure.

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Connecticut Fire Chiefs Meet

Allen D. Judson, Chief of the Stratford, Conn., Fire Department, was elected President of the Connecticut Fire Chiefs' Club at the annual gathering of that organization held at the Hotel Griswold, Groton, Conn., on September 9. Chief Judson served as Vice-president during the past year.

Other officers named were First Vice-President, Chief George Graham, Bristol; Second Vice-President, Chief Thomas Furey, Thompsonville; Secretary-Treasurer, Ex-Chief David B. Mercer, Wildbridge. Named to the Board of Directors were Chiefs Thomas Donnelly, West Hartford; John H. McNamara, Danbury; James Swan, Seymour and Cornelius J. Carrigan, Terryville. Chiefs John Pachl of New Haven Annex and Paul P. Heinz of New Haven were chosen to head the Speaker's Committee.

The Legislative Committee appointed for the coming year consists of Chiefs Paul P. Heinz, New Haven; Thomas F. Cavanaugh, Waterbury; George C. Graham, Bristol; Stuart M. Potter, Greenwich; John Sheridan, Naugatuck; Frank Meunier, East Hartford; George Milne, Rockville; James U. Dibble, Old Saybrook; Charles Volk, Norwalk; Cornelius J. Carrigan, Terryville; Joseph P. Tracy, Norwich and Thomas Shipman, New London.

Resolutions were passed on the death of Rufus Fancher, former Chief of the New Haven Fire Department, who passed away since the last meeting of the organization.

THOMAS F. MAGNER

Fire Results in More Adequate Protection

Plans for more adequate fire protection are being made by residents of Henderson, N. Y., following a fire which wrecked two residences and threatened six others before it was brought under control by volunteer firemen of five departments.

The fire started in an unoccupied house in High street on the evening of July 15, and soon spread to the adjacent home of George Irwin. Fanned by a strong wind, the flames threatened the next six homes east of the Irwin place. Occupants of the houses removed all their furniture and other contents when it appeared the fire would get out of hand.

Henderson firemen, unable to handle the situation, sent out appeals for aid and were soon joined by fire departments from Adams, Adams Center, Sacketts Harbor and Dexter. The number of companies responding to the alarm was the largest ever called upon by Henderson. Firemen were on the scene for over eight hours.

Fire department officials of Henderson and residents are making plans to increase the fire protection by laying a pipe line from Stony Creek to the top of High street hill. Lack of water was a major handicap in the blaze as the Creek, nearest source of water, is 1,800 feet from the scene of the fire and the department has only 1,200 feet of hose. This condition was soon remedied, however, by the arrival of out of town companies and will be eliminated by the purchase of more hose and the pipe line.

SANFORD D. DEWEY.

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Triple Discharge
STACKED NOZZLE TIPS

Three nozzles in one. Overall length of unit 8¼". Furnished with 2½" Akron "Ball Type" Shut-off Nozzle.

Upper nozzle tip: 2¼" in length, ¾" nozzle discharge.

Center nozzle tip: 2¼" in length, 1" nozzle discharge.

Lower nozzle tip: 5¾" in length, 1⅛" nozzle discharge.

An Akron engineered quality product, easily handled and ruggedly constructed for severe service.

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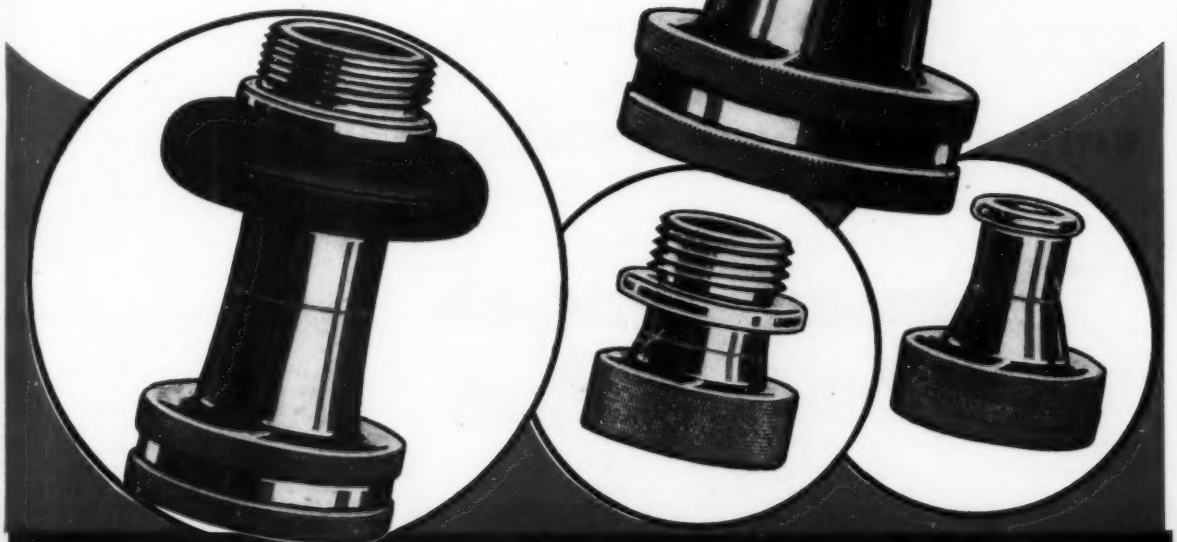

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In addition to leading makers of fire apparatus from coast to coast, WATEROUS furnishes Pumps to the MINNESOTA FIRE EQUIPMENT CO., of Lindstrom, in the "Gopher" State.

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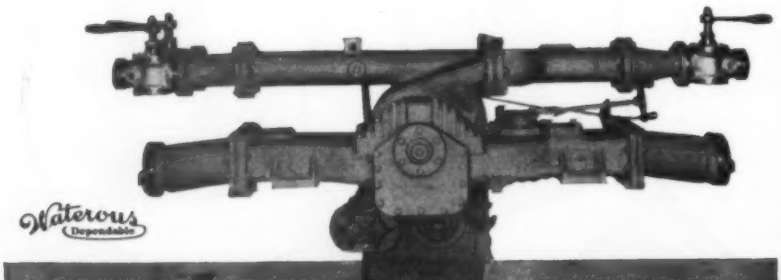

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CENTRIFUGAL-ROTARY

FIRE PUMPS

Philadelphia War Plant Burns in Three-Alarm Fire

Alternately helped and hindered by rainy, murky weather, firemen on September 13, struggled for more than two hours before bringing under control a three-alarm fire which swept a section of the Ajax Metal Company plant in the Kensington section of Philadelphia, Pa.

The flames melted a large quantity of brass and lead ingots used in war work and caused part of the roof to collapse.

The firemen at first found nature on their side when they responded to the first alarm, turned in at 5:04 A. M. A heavy rain was pouring as they arrived, and this helped to keep the flames from spreading.

However, the atmospheric pressure kept thick, acrid billows of smoke from dissipating. The smoke hung low over the fire scene, hiding everything from view.

The eastern half of the two-story building was occupied by the Ajax Metal Company, and the western half by the Nicholson File Company.

The Ajax plant was divided into three sections, each separated by a fire wall. The first section had open hearth furnaces downstairs. The second, or middle section, was occupied by the general office and the third section adjoining the Nicholson firm had furnaces downstairs and a machine shop on the second floor. The fire started near the furnaces. Some fifty men working in this section were startled by a sudden flareup near the ceiling. They fled as the flames spread through the section and burned through the ceiling to the floor above. Undisturbed were the fifty men working in the open hearth section and the twenty-five men in the Nicholson plant.

Two policemen on duty outside the plant turned in the first alarm at 5:04 A. M. The second was turned in at 5:10 A. M. and the third at 5:20 A. M., bringing some ten engine companies from the central and northeast sections of the city.

The fire destroyed moulds, patterns and machinery in the machine shop.

Because of the danger that the fire-weakened floor might collapse under pressure of the ingots, Chief Engineer William F. Cowden ordered firemen to keep out of the building.

Southwestern New York Volunteer Firemen Meet

Old and new methods of putting out fires were demonstrated at Gowanda, New York, on August 4, during a series of exhibitions arranged for the Southwestern Volunteer Firemen's Association convention held on August 3 and 4. The demonstrations were arranged by Battalion Chief Harold R. Becker of the Buffalo Fire Department.

Dr. Frank Tyler, of Fluvanna, was elected president of the association to succeed Dexter L. Brown, Cuba. Other officers elected were: J. F. Dunning, Bolivar; James Boser, Allegany; William Ogolvie, Fredonia, and Frank Lorenz, Angola, vice presidents; Percy Collins, Belfast; Ernest Sloat, Gowanda; Thomas Bretz, Ripley and William E. Hull, Hamburg, directors; John Reilly, Dunkirk, sergeant-at-arms; Samuel Beckman, Lake View, assistant ser-

When ignorance is blistered!

● It's the ignorant men who make costly mistakes. Trained men don't get hurt by small fires. Trained fire-fighters don't let little blazes grow into big ones.

The way to train workers in fire extinguishing is by demonstrating use of extinguishing equipment. Show how to handle real fires. Show how various types of extinguishers are handled on different kinds of fires.

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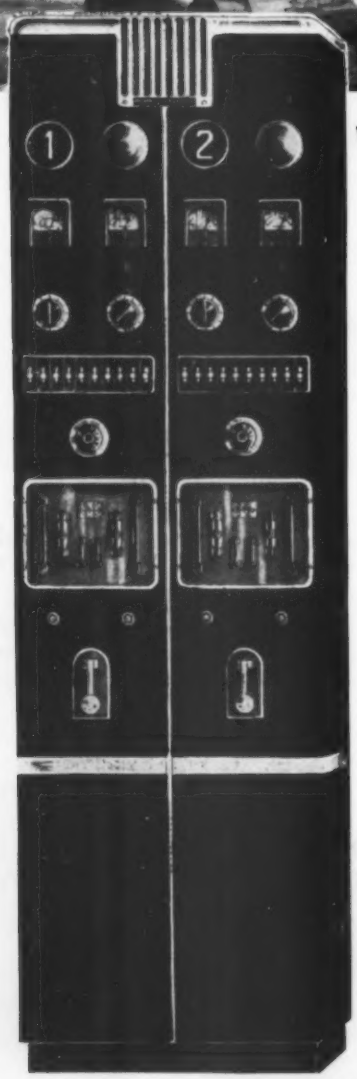

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geant-at-arms. Benson C. Smith, Cuba, was reelected treasurer and Robert Brown, Holland, was re-elected secretary.

Seth T. Cole, Albany, addressed the convention at the opening day's business meeting, advocating an educational program for training firemen and suggested that the State Department of Education include it in its schedule. Battalion Chief Becker of the Buffalo Fire Department also addressed the more than 500 delegates who attended the business meetings held in Gowanda's Hollywood Theatre.

Eight educational evolutions were staged by volunteer companies. They were arranged by Chief Becker, who heads the Buffalo Fire Defense Bureau and also is in charge of the department's drill tower and training courses. These evolutions included rescue work, salvage operations, ladder work, pumping operations and the use of a smoke ejector designed by Captain Roy B. Farrell of the Buffalo Fire Department. Captain Farrell showed how 3200 cubic feet of air per minute could be moved by his ejector with a 1-inch line with 200 pounds pressure, using 24 gallons of water. The ejector utilized a 14-inch tube. The equipment is portable and fits a booster.

This same 14-inch tube was then used on an 1½-inch line, two 50-foot lengths being used, and with 200 pounds pressure and using 58 gallons of water per minute, Captain Farrell displaced 4200 cubic feet of air per minute. The equipment used weighed 24 pounds and was easily portable.

For the final demonstration, Captain Farrell used two lengths of 2½-inch line with water at 200 pounds pressure on a 22-inch ejector tube. This used 200 gallons of water a minute and displaced 11,000 cubic feet of air per minute. The equipment was heavier and not quite as easy to handle, but was still portable.

A novel demonstration was staged to contrast the old bucket brigade with the modern apparatus manned by women auxiliaries from Asheville.

Fire Hazard Classification of Building Materials Published

The Underwriters' Laboratories, Inc., have recently issued Bulletin of Research No. 32 on Fire Hazard Classification of Building Materials, which outlines the test method now employed by the Laboratories in the classification of various building materials as to fire hazard. This method is separate and distinct from that covered by ASTM-C19-41, Standard Fire Tests of Materials and Construction, which is employed for the classification of building materials and construction as to fire retardant or fire resistive value. Several proprietary types of materials, treated and otherwise, have been classified as to fire hazard by the Laboratories according to this method, and other investigations are now in progress.

The test method described is under consideration by ASTM Committee C-5 on Fire Tests of Building Materials and Construction and has also been proposed as a basis for the classification of interior wall and ceiling finishes and insulation by ASA Committee A51 on Building Code Requirements for Fire Protection and Fire Resistance.

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The firemen's favorite. Dull finish black rubber. Lightweight, comfortable. Corduroy band collar, square shoulders, strap-and-buckle on sleeves. Length, 46". Sizes, 34 to 46.

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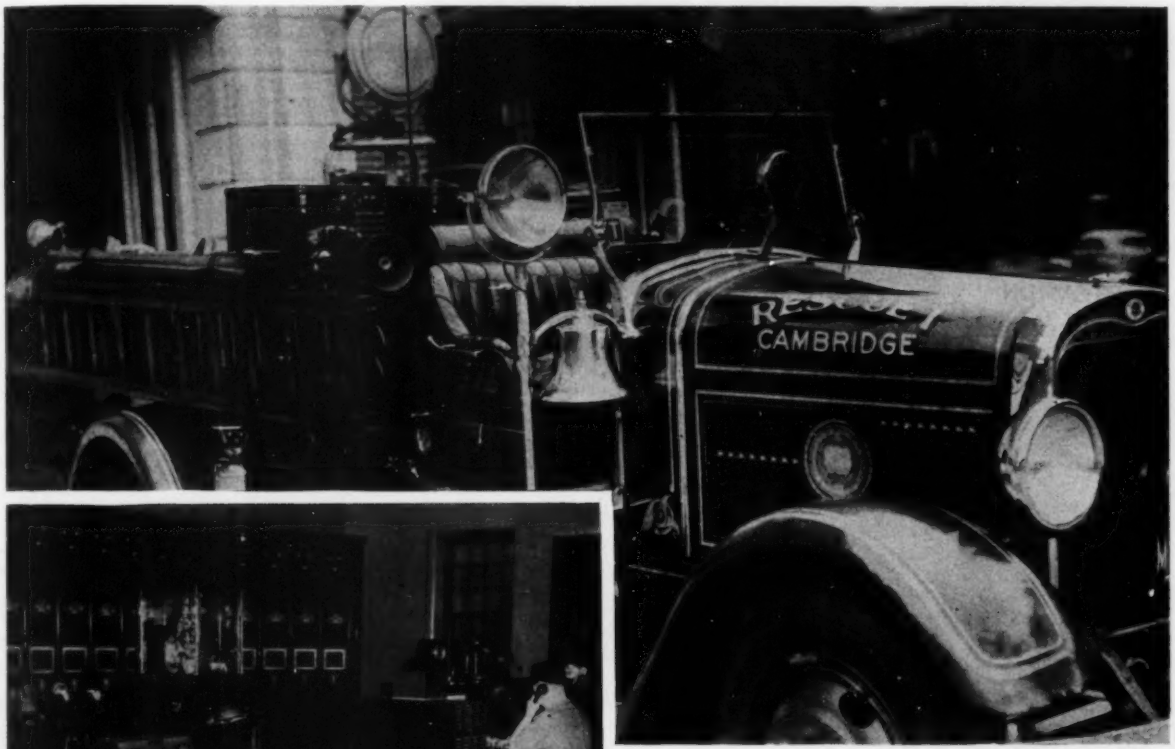
What's Burning

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of September, 1944. These figures, compiled from the telegraphic reports, are based on estimates made at the time and are subject to later investigation and consequent revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent losses in thousands of dollars.

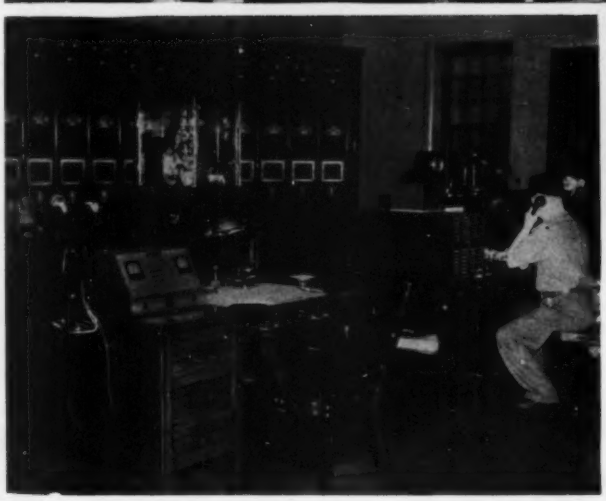
Month Ending September 30	Losses in Thousands of Dollars
Lebanon, Ind.—Four bldgs. occupied by Adler & Co. department store, doctors and dentists' offices, Chamber Hardware Co., Public Service Co. of Indiana, K. of P. Lodge, Boone County jail, Thompson Locker bldg. under construction, damaged	425
Newberg, Ore.—Springbrook Packing Plant destroyed	50
Chicago, Ill.—Four freight cars, also bldg. of Standard Paper Grading Co. damaged.	50
Warwood, W. Va.—Lumber yard, bakery, two frame dwellings and several garages destroyed	125
Eugene, Ore.—Spinning mill of Approved Flax Co., Clear Lake community, destroyed	170
Nashville, Ark.—Lumber mills of Joe D. Scott, destroyed	55
Trinidad, Colo.—Two store bldgs. destroyed	50
Atlantic City, N. J.—Five floors of the Hotel Knickerbocker and an entire block of boardwalk destroyed	170
Swisshome, Ore.—Consumers Co-operative Co. sawmill, west, destroyed	100
Gregory, S. D.—Flour mill of Gregory Roller Mills, Inc., destroyed	50
Whiteland, Ind.—Stokely Bros. & Co., Inc., canning plant destroyed	350
Cleveland, Ohio—Standard Oil Co. of Ohio's gasoline storage tank damaged	50
Cordova, Alaska—New England Fish Co. cannery destroyed	450
Santa Rosa, Cal.—Henry Laws lumber yard damaged; De Truk Winery damaged	170
New York, N. Y.—Thirteen race horses and stable owned by Trainer Max C. Hirsch destroyed at Belmont Park Racetrack	200
Drain, Ore.—Whipples Sawmill destroyed	60
Hull, Que.—Avalon Hotel destroyed	170
Halifax, N. S.—Plant of Piercey Supplies, Ltd., destroyed	400
Stratford, Cal.—Warehouse of James & Webster, Southern Pacific right of way destroyed	100
Rochester, N. Y.—Rochester Business Institute damaged	50
Clarkson, Ont.—Refinery of British American Oil Co. damaged	60
Sacramento, Cal.—Hotel and warehouse destroyed; five business bldgs. damaged	80
Boston, Mass.—Sheds of Godfrey Coal Co., Milton Lower Mills near Dorchester line, destroyed	225
Omaha, Neb.—Clubhouse of Omaha Field Club destroyed	50
Quitman, Tex.—Lipscomb Pharmacy, the Reynolds Bldg. and McCain's Cafe damaged	50
Fresno, Cal.—Superior Olive Products Co. plant destroyed	70
Live Oak, Cal.—Bldg. occupied by Charles R. Howells' enterprises; beauty parlor, barber shop, plant of Live Oak News, variety store, two groceries and several small businesses destroyed	80
Philadelphia, Pa.—Municipal ash wharf and storage shed, destroyed; two barges damaged	100
Vancouver, B. C.—Grossklieg & Trueman Logging Co.'s properties, Lake Cowichan, near Youbou, destroyed in forest fire	1250
Carmel, Cal.—Hatton Field home of Sidney A. Trevvett destroyed	50
Bell, Cal.—Alcazar Theatre damaged	50
Sacramento, Cal.—Tourist Hotel bldg. between Sacramento and North Sacramento destroyed	125
Stockton, Cal.—Holt Bros. farm equip. firm plant damaged	80
North Kansas City, Mo.—Williams Roofing Co. destroyed	300
Elgin, Ore.—Union County Grain Growers' elevator destroyed	450
Albany, Ga.—Paramount Distilleries bldg., outside city limits, damaged	50

Link FM *Radio* Now serving
CAMBRIDGE, MASS. FIRE DEPARTMENT



Link Type FMTR-W Mobile Unit

↕ A rescue Squad Truck mounting the **Link Type FMTR-W.** Two-way FM radio communication is assured while responding to calls at high speed as well as at the scene of the emergency.



Link Type 806 Remote Control Unit

←≡ Fire Alarm Telegraph Headquarters at Cambridge, Mass. A **Link Type 50-UFS** main station unit is remotely controlled by the **Link Type 806** on desk in the foreground. Fire Departments throughout the country are choosing Link FM radio equipment on its enviable record made in the other Emergency Services. In addition to the Armed Forces, Link Radio is serving Police, Fire, Forestry, Railway, Public Utility and Government Organizations.

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This Approval, plus our own tests under actual fire conditions, assures the firemen of a dependable, proven Fire Department Gas Mask.

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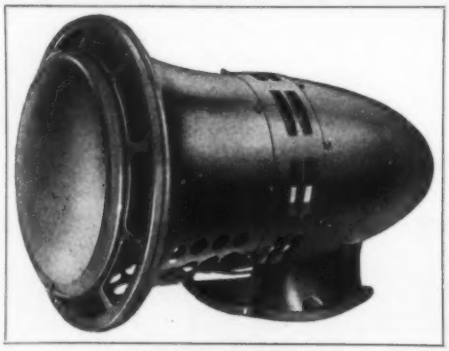


SIRENO WITH 7" RED FLASHING LIGHT

Clarinda, Ia.—Shambaugh Mills destroyed; two elevators with 5,000 bushels of wheat and mill destroyed 50
Detroit, Mich.—Bowling alleys of Mt. Elliott recreation bldg. damaged 80
Cleveland, Ohio—Cuyahoga Soap Co. destroyed 50
Summerside, Nfld.—Herring processing plant of Newfoundland Dehydrating Co. destroyed 100
Lakeport, Cal.—Hop cooler on ranch of George Proctor, Scott's Valley, destroyed 80
Santa Monica, Cal.—Bldgs. housing Llo-Da-Mar Bowling Alleys, cocktail lounge, coffee shop and offices, totally destroyed 60
Maumee, Ohio—Plant of Maumee Lumber & Supply Co., and elevator of Toledo Grain and Milling Co. destroyed with contents and machinery 50
Salem, Ore.—Plant of Reinholdt & Lewis, venetian blind mfrs. destroyed 50
Sacramento, Cal.—Warehouse, ranch house, office bldg. and several small structures on E. Clemens Horst Ranch destroyed.. 50
San Diego, Cal.—Offices, store and warehouse of Whiting-Mead Co., Los Angeles bldg. supply firm, gutted 80
New Bedford, Mass.—Special Laundry, Inc., destroyed 50
Cottondale, Ala.—Two main bldgs. of G. & B. Yarn Co. destroyed 80
Mellenville, N. Y.—Columbia Boxboard Mills, Inc., plant destroyed 225
Batavia, N. Y.—Five huge storage tanks at the plant of the Ryan-Dewitt Petroleum Distributing Corp., destroyed 115
Chicago, Ill.—Bowl-Haven bowling alleys damaged 60
Manchester, N. H.—Bldg. housing twelve apartments, a fur store and citizen's club damaged 60
Buffalo, N. Y.—Bldg. occupied by Kayser Furniture Co. damaged 80
Birmingham, Ala.—Plant of Armour & Co. meat packers, damaged 80
Fresno, Cal.—Casner drug store, Temple Bar Bldg. damaged 50
Omaha, Neb.—Municipal airport hangar destroyed 70
Dunsmuir, Cal.—Weed Hotel destroyed.... 125
Red Bluff, Cal.—Offices and yard of Stirling Lumber Co. destroyed 50
Chicago, Ill.—Garage and nine buses of the Suburban Transit Bus Line in the village of Worth destroyed 170
Tams, W. Va.—Tipple of Gulf Smokeless Coal Co. destroyed 170
Lincoln, Ill.—Lumber yard of Lincoln Casket Co. destroyed 50
Blytheville, Ark.—New Home gin destroyed 50
Deerfield, Ill.—National Brick Co. damaged 50
Buxton, N. Dak.—Farmers Union Elevator destroyed 80
Anniston, Ala.—Alabama Hotel destroyed. 170
St. Louis, Mo.—National Foundry & Machine Co. plant damaged 225
Salem, Ore.—Rhinehold & Lewis Veneer Co. destroyed 50
Wapato, Wash.—Hop kiln of Dan McDonald destroyed 80

Pipeline Terminal Fire Threatens Bromley, Ky.

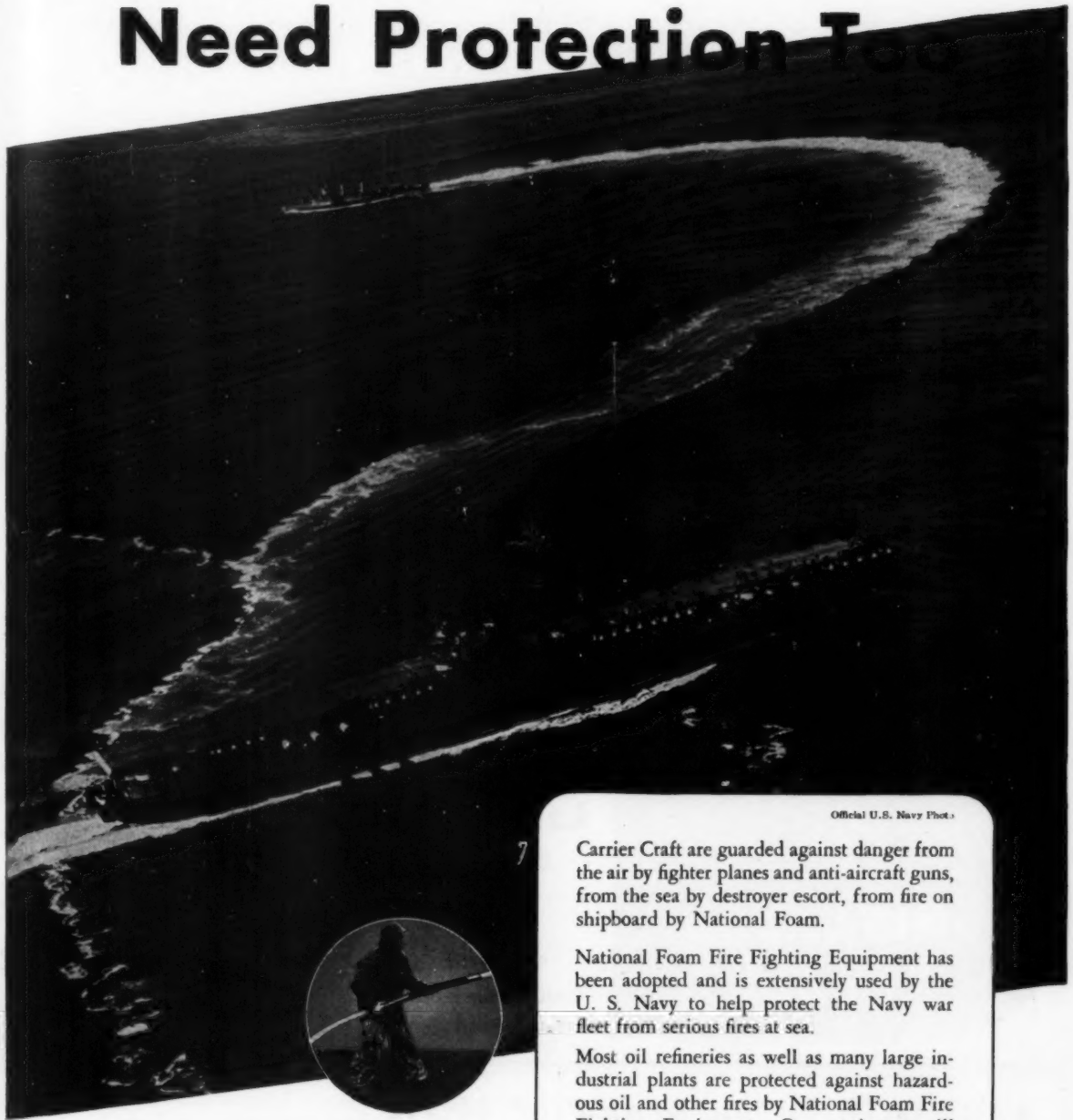
A fire that started late August 11 and burned into the following day at the Standard Oil Company of Ohio's pipeline terminal, several hundred feet beyond the Bromley, Ky., city limits caused damage estimated at $50,000 and threatened for a time to involve the city.

Two versions were forthcoming as to the cause of the blaze which originated at the terminal pumphouse. One was that a welder's torch had ignited the gasoline, while the other described a hack saw as having accidentally fallen into one of the electric transformers near the pumps, causing an arc that ignited the inflammable fluid.

Fire equipment reached the scene from Bromley, Ludlow, Elsmere, Covington, South Ft. Mitchell and Cincinnati. Chief Eli Gibson of Bromley was in charge of the fire fighters with the other department heads cooperating with him.

Chief Frank Northcutt of Covington described the fire as "a very difficult one to cope with." He explained that although the flames could have been

"FLAT-TOPS" Need Protection Too!



Official U.S. Navy Photo

Carrier Craft are guarded against danger from the air by fighter planes and anti-aircraft guns, from the sea by destroyer escort, from fire on shipboard by National Foam.

National Foam Fire Fighting Equipment has been adopted and is extensively used by the U. S. Navy to help protect the Navy war fleet from serious fires at sea.

Most oil refineries as well as many large industrial plants are protected against hazardous oil and other fires by National Foam Fire Fighting Equipment. Our engineers will gladly consult with you and advise regarding the type of equipment which will most effectively meet your need.

BACK THE ATTACK—*BUY WAR BONDS*

IN FIRE DEPARTMENT SERVICE

National Foam System has equipment especially designed for the use of Fire Departments to meet all types of fire fighting requirements. Complete engineering service available.

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Specializing in Foam Fire Protection

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Here's the

Quicker, Safer Way to Put Out Fires

The Universal Nozzle provides the *quicker* way to put out fires because the hoseman can change the type of stream in an instant for any sudden change in fire conditions. The Universal Nozzle provides the *safer* way to put out fires because it can put a 130 degree water curtain between the hoseman and the flames . . . also in an instant . . . while retaining a solid stream, if desired. The Universal is the versatile nozzle, proved by seven years of actual use under all conceivable conditions.

Solid Stream • Fog • Water Curtain
or Any Combination
with

The UNIVERSAL NOZZLE

Satisfied Users Include

The U. S. Army and Navy at their air stations, the U. S. Coast Guard on its vessels, in addition to industries and municipal fire departments everywhere.

Write for Details

Inquiries about this remarkable nozzle are invited. Dealers, industries, and fire departments will be sent full details without any obligation.

L. N. CURTIS & SONS
Emergency Equipment
451 Hudson St.
OAKLAND 9, CALIF.

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Now—because of the Government's prohibition of the use of nickel, brass, copper, nickel plating, and chromium—we are making these badges and insignia in sterling silver, sterling silver gold plated, rolled gold on sterling silver and 14 karat gold.

Today—for just a little more, you get a sterling silver Braxmar Badge—without doubt the best badge you can buy anywhere.

The blue covered catalog is the latest published but write for our new price list, effective July 29, 1943. Only prices in the catalog on 14 karat gold items are still in effect. A special Fire Dept. circular is now in preparation. Watch for your copy.

C. G. Braxmar Co., 242 W. 55th St., N. Y.
JOHN G. VEIT, Pres.

BRAXMAR BADGES

Standard for over 60 years

extinguished, it was very unwise to do so. For the result would have meant releasing the supply of gasoline from 10-inch pipe lines from five storage tanks on the Ohio River hillside onto the Bromley area. This would have been dangerous due to the possibility of the gasoline igniting and causing heavy damage to the Bromley area.

Firemen followed the procedure of allowing the gasoline in the pipes to burn in as small a flame as possible, keeping the blaze under control, and preventing it from spreading. Three truckloads of foam dispatched to the scene from the Latonia Refinery aided in this process.

In addition, a total of eight fire pumpers poured water throughout the night onto the flames from two fire hydrants and the Ludlow Lagoon Lake 3000 feet away. Four of the pumpers used the lake, the muddy water from which was said to have been particularly effective in controlling the fire.

Each of the storage tanks on top of the hill has a capacity of 40,000 barrels and they are used for the storing of gasoline, crude and fuel oil.

As the fire grew in intensity, accompanied by explosions of oil pools that sent flames 200 feet into the air, Bromley citizens in the area near the fire left their homes for fear the blaze would spread.

The fire was thought to be under control four times, but in each instance broke away to send its flames into the air again.

The flames destroyed the pumphouse, transformers, tool house and an office building at the terminal.

Hose owned by the Bromley Department was burned by an explosion of a gas pocket in a pipe line valve. Hose of other departments was badly scorched. A relay system was used in pumping water from the lagoon lake, with two pumpers taking draft and two others stationed between them and the fire to boost the pressure.

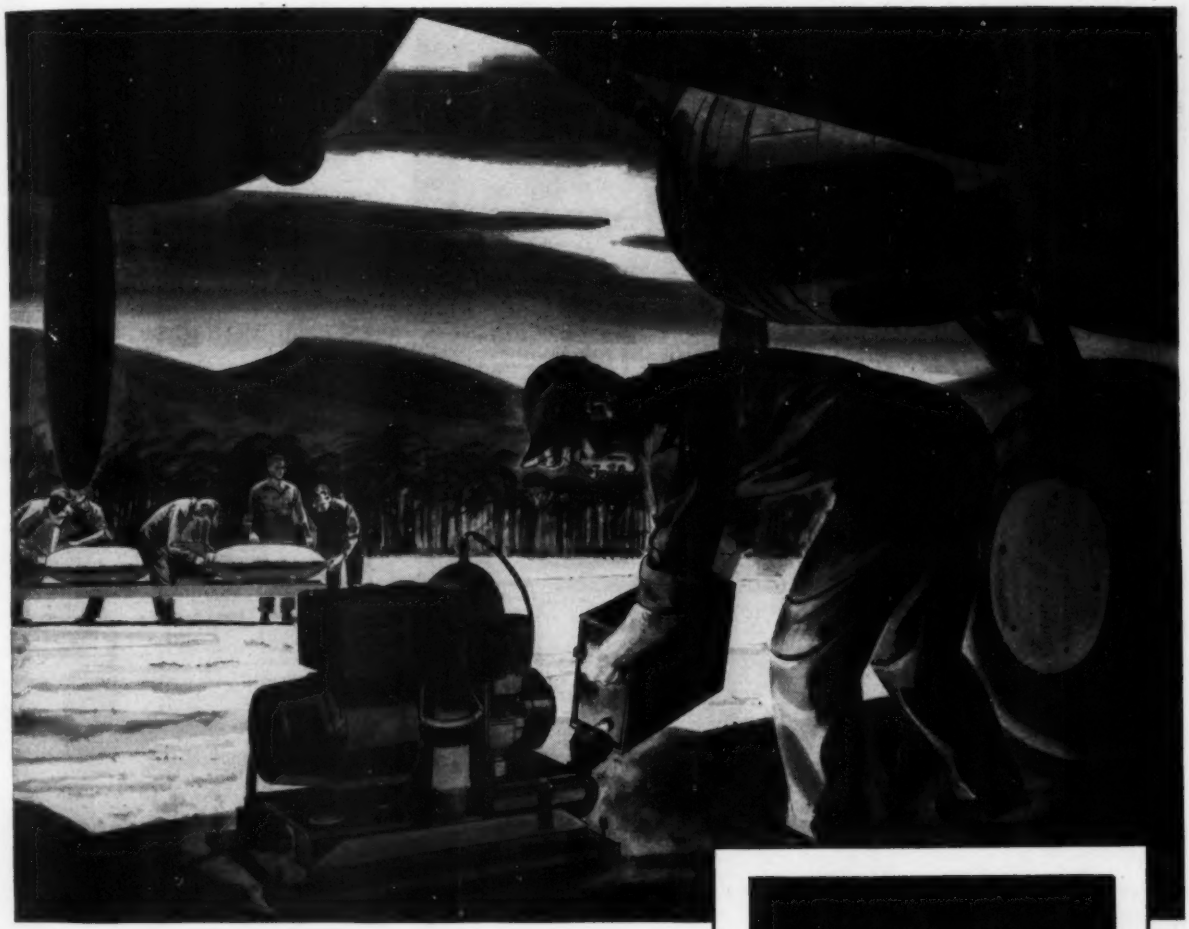
Salary and Workmen's Compensation Cannot Be Collected

Deputy Compensation Commissioner Harry Medinets in Newark, N. J., has ruled that "a municipality has no right to pay the full salary to its employees during the time they are laid up with injuries and drawing temporary compensation" and has awarded Joseph H. Reinhold, an Irvington, N. J., fireman, $3,990.13, instead of $6,942.80. The difference between the original award and the new award has been given to the Town of Irvington.

Correction

In listing the companies that cooperated with the Rubber Reserve Corporation in conducting the tests on extinguishing fire in the manufacture of butadiene, at Baytown, Texas, described on Page 539 of the August issue of FIRE ENGINEERING, the names of the Automatic Sprinkler Corporation of America and the Grinnell Corporation were inadvertently omitted.

West Pittsburgh, Pa.—A volunteer fire department has been organized with Charles Caggatt as chief, for the protection of Taylor Township.



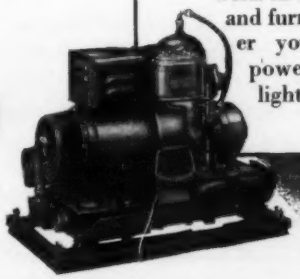
It eats the same grub as planes

And likes it! . . . Yes, a Homelite Portable Generator can be operated on high octane, highly leaded aviation gasoline. No special diet is necessary . . . even 100 octane gas, the fuel of planes, can't harm a Homelite's built-in gasoline engine.

The simple reason is this . . . the Homelite *two-cycle* engine has no exhaust valves to burn out. That's right . . . no valves to foul with lead or carbon . . . no valve seats to reface. Its only valve is a simple rotary valve that governs the flow of fuel.

This, plus automatic voltage regulation, a lubrication system that supplies fresh, clean oil at each revolution, are some of the many reasons why thousands of rugged Homelite Portable Gasoline-engine-driven Generators are working in and around our military planes everywhere.

A Homelite Portable Generator isn't too fussy how you treat it or how you use it. Just give it some gasoline with a proper mixture of oil and it will work all day and night. It will work in rain, snow, sleet or heat and furnish all the electric power you need for operating powerful, flickerless floodlights or handy electric tools.



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FOR VICTORY OVER FIRES...

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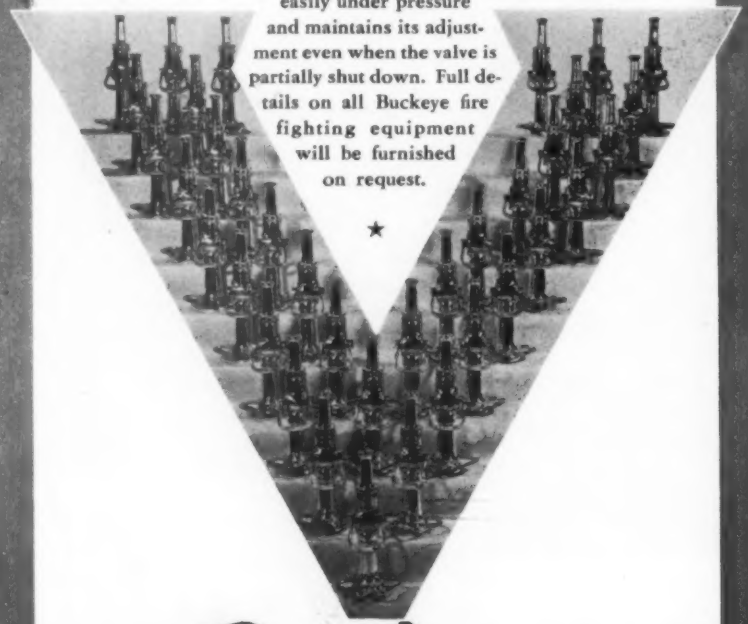
Practical, dependable, the Buckeye Shut-Off Nozzle owes its popularity to careful design and efficient service *under pressure.* Buckeye engineers produced a nozzle which insures satisfaction. IT DOES NOT LEAK. All working parts are accessible. The shut-off works easily under pressure and maintains its adjustment even when the valve is partially shut down. Full details on all Buckeye fire fighting equipment will be furnished on request.



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24 West 40th Street, New York 18, N. Y.

War Fare

By Roi B. Woolley

Nice "Visitor"

We dunno as we ever heard of one of those buckets of water, or sand, placed in apartments and residences for use in fighting enemy air bombs being put to work. Just shows how wrong we can be.

Mr. Michael Keating, elderly, retired and living alone in a six-story Queens, N.Y.C., apartment building, was placidly pacing his apartment one noon when his meditations were rudely interrupted by a phosphorus flare bomb! This bomb, such as is used by pilots to facilitate a landing on a dark field, or to locate a night objective, came through the roof of his apartment, then through Mr. Keating's own ceiling, hit the floor, bounced onto the couch and burst into flame.

Almost anybody could be pardoned a bit of panic in this extremity, but not Mr. Keating. Remembering his civilian defense training, he stepped into the hallway, took a bucket of water placed there by the management for use in an air raid, and hurried back to his living room. Quicker'n that, he swooped the bomb into the bucket, before it had done any great damage, and then notified the police (What!—no fire department?). The bomb itself was about 14 inches long with wooden case and metal nose, constructed so as to flare when it hit.

* * *

Blackout for Blackouts

It was announced September 22 that there would be no more practice blackouts in New Jersey in the future unless ordered by Army authorities; however State Civilian Defense Director Wm. A. Wachenfeld, made it plain that this didn't mean the end of the work of civilian defense organizations throughout New Jersey.

The same month in New York, Edward G. O. Thomas, state director of civilian protection indicated that the possibility of further practice blackouts was nearing an end in New York State. Many communities have closed up civilian protection headquarters, eliminating emergency telephones and sirens.

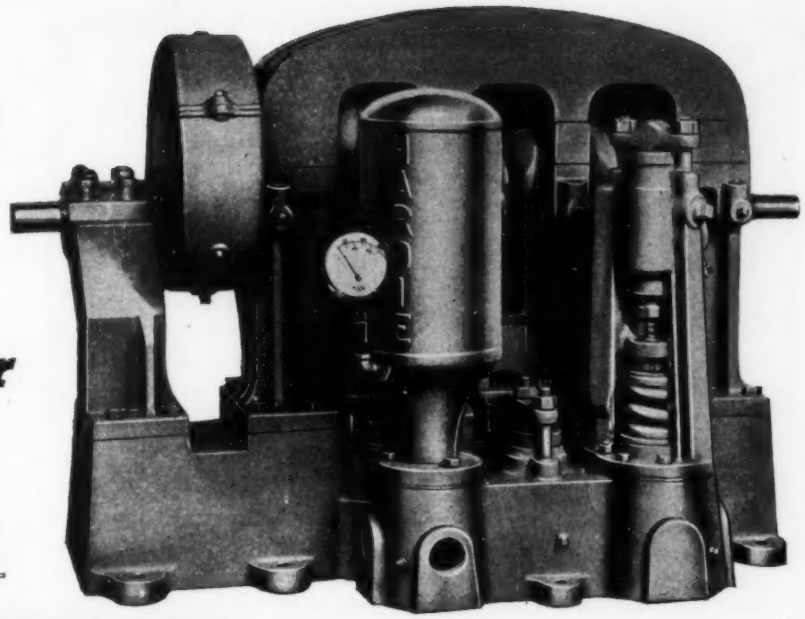
* * *

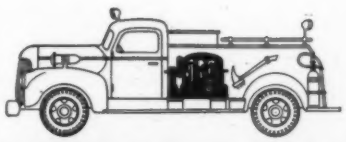
Worst Air Disaster?

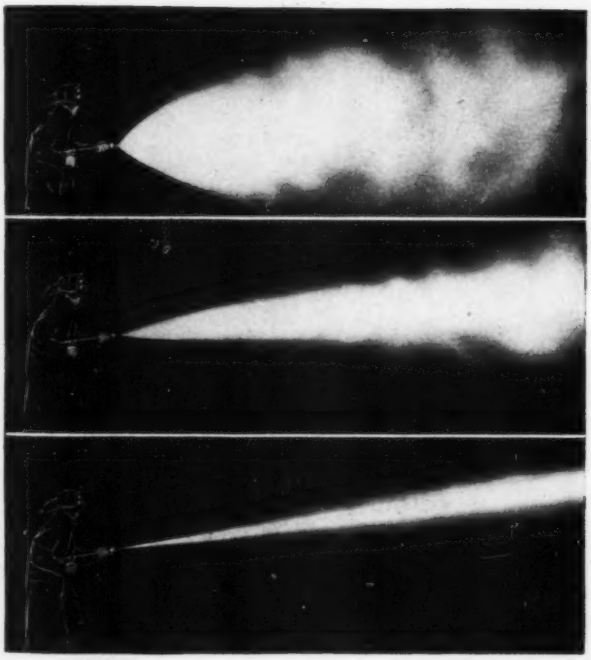
Figures on the fatalities resulting from the crash of the American bomber into Freckleton, England on August 23 run all the way from 60 to 84. The crash was one of the worst air tragedies of the war. It is believed that lightning struck the big Liberator which plunged, flaming into a church school infants' department, the fire at the same time trapping soldiers and others in a snack bar across the street. The pilot and three crewmen were killed. American troops stationed nearby earned praise for their rescue efforts. Many rushed to the scene and helped move women and children out of danger from a 100 foot wall of flame which enveloped the school, snack bar and nearby houses.

This and many other like disasters emphasize the hazard of the large bomber with its "flying tankload" of high test gasoline—a deadly "incendiary," whether

The Pump for Your Fog Fire Fighter







● Because the Hardie is a big, strong, vertical, crankshaft driven pump it gives you unfailing pressure and volume at all times and under all conditions. With a Hardie you get 800 P. S. I. at the nozzle, at slow speed, without excessive wear and tear on the pump—35 gallons per minute at 100 R. P. M., 60 gallons per minute at 130 R. P. M. No need to speed up or overload a Hardie to get required volume and pressure.

The Hardie is designed and built to last. It is the only such pump that is completely lubricated, even the plungers and plunger cups run in a bath of oil. The Hardie is readily assembled into the complete truck regardless of truck model employed. These are reasons why you find a Hardie High Pressure Pump in the Fog Fire Fighters built for the U. S. Army Engineers, and for civilian users by Mack Mfg. Company of Long Island City, N. Y.; General Fire Truck Corporation of Detroit, Michigan; Edgar Road Tank Works of Linden, N. J.; Seagraves Company, Columbus, Ohio; General Pacific Corporation, Los Angeles; Howe Fire Apparatus Co., Anderson, Ind.; Sanford Fire Equipment Co., Syracuse, N. Y.

You can make sure of consistent satisfaction in use regardless of which Fog Fire Fighter you buy when you make sure that it includes a Hardie pump.

THE HARDIE MFG. COMPANY

Hudson, Michigan Los Angeles, Calif. Portland, Oregon

Specify

● The Hardie Fog Gun gives really complete atomization. Single Trigger Control provides convenience and ease in use under all operating conditions—one hand selects any type of fog or stream desired. Regardless of the Fog Fire Fighter you buy you need a Hardie gun.

★H★A★R★D★I★E

High Pressure PUMPS AND FOG GUNS for Fog Fire Fighters

Amazing Device Makes Wheels *PULL!*

If your fire apparatus must travel off of paved roads, up hills, through snow, deep sand, mud, gravel or over ice, then look into this THORNTON Automatic-Locking DIFFERENTIAL.

Spinning of one wheel which normally stalls a vehicle in conditions mentioned above, *never* occurs when this Automatic DIFFERENTIAL is installed . . . because both wheels must rotate when power is applied.

Models readily available for the following 1½-2 ton single axle trucks: Chevrolet, Ford, G.M.C., International, Reo, Studebaker.

If you want traction and action, investigate our features and advantages today. Write . . . wire . . . or telephone.

THORNTON *Automatic-Locking* DIFFERENTIAL

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Please send me data on your *Automatic-Locking* Differential.

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THE FIRE CHIEF'S HANDBOOK

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Gives a practical, authoritative answer to almost every question that might come up in modern fire fighting practice.

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friendly or enemy plane. The citizens of that little Lancaster gardening village, even in the midst of enemy raids hardly expected to see wholesale death come hurtling from the sky in that fashion.

That tragedy happened on August 23 last. Only two days before, that same month, a Navy torpedo plane crashed into a house in Sanderson (R.I.) following a midair collision with another plane. One house was destroyed by flames, another badly damaged. An officer and two men were killed. Fortunately the wrecked house was unoccupied. One woman, an invalid, was rescued from the front porch of her damaged home by Coast Guardsmen.

It can happen here; it *is* happening here. It will happen in a greater scale, even, as this nation takes to the air. It's time to prepare!

* * *

Hot Off the Ticker

It won't be long now; London and Manchester and other British cities have turned on the lights and discarded sirens. How's about those American cities that are still trying to enforce the "no-siren-on-fire-apparatus" order getting back to normalcy? . . . A Paris newspaper reports that Germans told peasants in vicinity of Arras that the huge installation which was intended to house a secret weapon which would demolish London, had been destroyed by Allied bombing. Five thousand workers toiled for months to build it . . . Just after London had decided to turn on the lights, robot bombs began coming over again, apparently launched from planes. An evacuated family of six, which had returned, was wiped out, with exception of one, when a total of fifteen Britons were killed during night attack. . . . The U. S. has a new jungle flame gun that hits beyond 60 yards range—also a new "blow torch tank". . . . *That musta been some bustup when an Allied aviator bombed a train carrying more than* 100 *flying bombs. Forty cars, each bearing three bombs went up. They say parts haven't come down yet.* . . . Every able bodied man of New York City's protective forces will be mobilized on "V Day" for duty, 'tis said, as part of the city's plan for mobilization against any possible wild celebration. . . . According to the wayward press, the first municipal firemen in the armed forces to be wounded is now back at fire duty. He is Arthur Meigel, Sunnyside, Queens, of the NYFD. . . . Germany's first gas alarm was sounded during an Allied air attack in September on Darmstadt, when a bomb hit a chemical plant, releasing poison gas, according to German newspapers. Some deaths were caused it was said. . . . When air raid siren wires got themselves crossed up at Engine 317, St. Albans, Queens, N. Y. C., the air raid continued to blast its warning, routing out air raid wardens from near and far. . . . Five firemen were knocked out fighting flames that started in a blanket storeroom of an Allied Nations ship docked in the North River, N. Y. C. . . . Charge against a sea vet, of smoking in a war zone were withdrawn when he hold the judge *"I felt that since I was back in my own country, after seven trips to the Normandy beaches, I had a right to smoke.* Looks like one for the truckhouse debaters to work over. . . . Jack Sapan, employed making uniforms for the Army, was haled to court for the same offense.

NOW AVAILABLE

MIDWESTERN *Fireman's*

Rubber or Canvas—COMBINATION SUIT

Special combination suit with Bunker Pants is Midwestern's Outfit No. 101. Detachable wool linings. Flexible elastic inner sleeve for wrist. Keeps out water, cold and sparks. Equipped with Midwestern Safety Snap, a new exclusive feature. Can be easily and quickly fastened or unfastened—nothing can catch on it. Will not freeze or jam as easily as old type snap. Midwestern garments are favored by the larger municipal departments throughout the country. Write for literature and prices.

THE COAT:

- Adjustable collar strap
- Reinforced collar band for lining
- Lining attached with quick snap buttons
- Corduroy lined collar
- Reinforced, double stitched seams
- Vertical seams in sleeve shoulders
- Inside of fabric, heavily napped cloth
- Two outside pockets
- Wool detachable lining
- 6-inch storm flap

THE PANTS:

- Lining held by snap buttons
- Rubberized fabric belt in lining
- Eight suspender buttons
- Safety snap on belt
- Two side and one hip pocket
- Reinforced adjustable belt
- Special Vanitex fabrics
- Wide protecting flap
- Reinforced by rivets

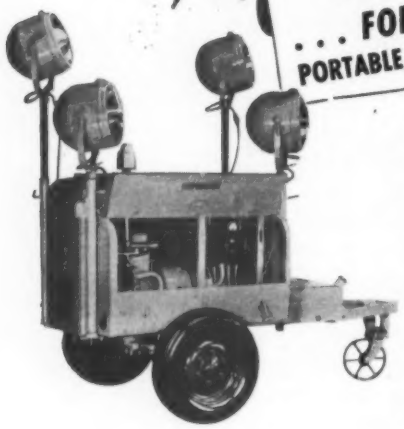
REGULAR FIREMAN'S BOOTS NOW AVAILABLE

Fireman's boots ¾ length, reinforced instep, felt linings. Do not confuse these boots with reclaimed boots which have been offered firemen for past 2 years. These are regular fireman's boots made of the new synthetic rubber. Write.

See your Midwestern Mfg. Co. representative for catalog and prices, or write the factory.

MIDWESTERN MFG. CO., MACKINAW, ILLINOIS

320,000 CANDLE POWER OF LIGHT
The NITE-HAWK
. . . FOR NIGHT FIRE FIGHTING
PORTABLE, ENGINE DRIVEN POWER PLANT



Towed at truck or auto speed, this self-generating power plant goes to the fire with you — gives you ample light for fighting night fires. Four 1,000-watt, 80,000 candle power, wide-angle floodlights provide an even flow of light over a wide area. Each light individually operated and adjustable up and down, and in all directions. Lights may be removed and taken into building on extension cords and tripods. Also, a control panel with receptacles gives you power at 110 volts for operating electric tools, like saws and metal cutters. This Nite-Hawk is also available with two 80,000 candle power floodlights and a 7 million candle power searchlight. Write for Bulletin NH5E.

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INCORPORATED 1706 SO. 68TH ST., MILWAUKEE 14, WIS.
MFRS. OF PORTABLE NITE-HAWK AERO-STARTERS, SEARCHLIGHT AND FLOODLIGHT UNITS
ALSO DIESEL ENGINES AND DIESEL-ELECTRIC POWER PLANTS

"HAHN" FIRE APPARATUS
SINCE 1907

FINEST IN THE WORLD ★ STREAMLINED ★ BALANCED CHASSIS ★ AMPLY POWERED ★ VERY EFFICIENT PUMPS WITH PLENTY IN RESERVE

HAHN MOTORS, Inc.
HAMBURG, PA.

His excuse was that he had just received a letter from his son, a soldier in France, and was so elated he lighted a cigar. Nevertheless, he didn't fare so well—his fine was $25. . . . Four others were fined $25 each on charges of smoking on ships in dock—all in Manhattan, N. Y. C., court. . . . A 1-year old boy was killed and three playmates injured when a 75-mm shell souvenir of World War I exploded in Detroit, Mich. They threw the shell at some rocks. Police can't understand why all weren't blown to pieces. . . . New York City, following the hurricane, staged an emergency radio service test, using war emergency radio (WERS) and 400 volunteer operators, to relay fire and police emergency messages. . . . **In Malden (Mass.) an exuberant marine sergeant, apparently forgetting that he was no longer at Saipan, took his father to the rear of his house to show him how a captured Japanese machine gun worked. He showed pop—and the city. The roar brought police who took the souvenir but omitted charges.** . . . Executives of the Harmonia Bank, Union Square, Elizabeth (N. J.) took modern precautions against robbery and installed a tear gas system, but never learned how to get rid of the gas once it was liberated. When a repairman pushed the wrong button releasing gas, depositors, clerks and officials beat a hasty retreat from the bank. Nobody knew what to do, so they called an official of the company that made the system and he said, open the windows, build up the fire in the furnace and turn on all the radiators. The bank opened as usual the next day. . . . Army engineers are trying to "dehydrate" quicksand in order to reach an Army plane and its dead pilot that disappeared in the sand of the Great Salt Plains near Jet, (Okla.). It was estimated the plane would come to rest 15 to 20 feet below the surface. . . . As sequel to the bazooka blast which critically injured three boys, hurt three less seriously, the police have found the soldier who brought home the souvenir. At the same time, they report a flood of bombs, cartridges and other lethal relics, turned in by frightened citizens.

* * *

Comfort to Hitler-Hirohito

Like the poor relation, fire is always with us. Here are a few which have done their part to prolong the war:—

GRANITE CITY, ILL.: A second fire broke out at the Army Engineers Depot destroying an undisclosed number of wooden conduits and other matériel. The day before, an open warehouse loaded with engineering equipment was lost. Fire fighters from St. Louis, Granite City and nearby towns assisted the depot's brigade to control the blazes.

ELGIN FIELD, FLA.: A fragmentation bomb which fell accidentally from a plane killed four persons and injured five others at little community of Alaqua, near the edge of the bombing range.

VANCOUVER, WASH.: Damage estimated at $1,500,000 was caused when forest fire near Youbou, B. C. on Vancouver Island destroyed piles of logs and quantities of standing timber.

MCALESTER, OKLA.: A large United States Navy machine shop was destroyed. Details unknown.

SAN FRANCISCO, CAL.: Fifty negro sailors went on trial before military court

Police radio saves police cars and men many a "wild goose chase."

That's one big reason why fire departments ought to be furnished with the same type of equipment. With RCA two-way radio in fire stations and apparatus, fire chiefs could save firemen and fire trucks many useless trips—get extra crews quicker when really needed.

Without radio to keep them continuously informed, firemen have no choice but to go tearing off to the far corners of their territory—perhaps only to find it's a fizzle and that they are desperately needed somewhere else.

With radio, fire-fighting forces can be instantly and continuously directed, recalled, or maneuvered, as circumstances require.

RCA will gladly answer any questions about any type or application of RCA Emergency Communications Equipment. While availability of the equipment is limited by war priorities, any information you can give us now regarding your future need of such equipment will help us serve you better just as soon as the war permits.

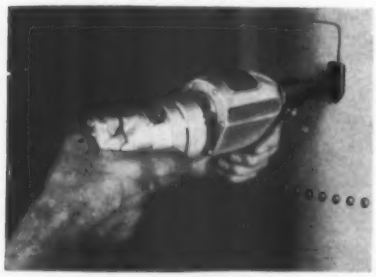
1919-1944—25 *Years of Progress in Radio and Electronics*

RCA

RADIO CORPORATION OF AMERICA

RCA VICTOR DIVISION · CAMDEN, N. J.

THE NEW
SAW-GUN
SHOULD BE STANDARD
ON ALL
FIRE-FIGHTING EQUIPMENT



Here's Why..!

The Saw-Gun is a portable power-saw that will quickly cut into all metals, wood and other materials. Quickly attaches to any electric or air drill, and may also be propelled by a flexible shaft. Insert ordinary hack-saw blade for cutting.

Firemen equipped with this handy tool can now get at the fire quickly. Can cut openings into obstructions regardless of their material. Cuts rapidly through heavy gauge steel. No need to waste precious time removing steel gratings . . . cut them out of the way with this amazing portable tool. Does away with slow, cumbersome, dangerous gas cutting torches, together with their long lines of hose and heavy tanks.

Progressive fire-chiefs who know the importance of getting at a fire *fast*—who want a quicker means of getting to entrapped persons, will add the Saw-Gun as standard equipment.

ONLY $42.00
QUICK SHIPMENTS ON AA-5 PRIORITY OR HIGHER

Sold on Money-Back Guarantee

SEE YOUR JOBBER or WRITE DIRECT
Mid-States
EQUIPMENT COMPANY
Saw-Gun Division
2419 S. MICHIGAN AVE., CHICAGO 16, ILL.

in September on charge of mutiny for failure to handle ammunition in loading of Navy ships. Their refusal occurred three weeks after Port Chicago explosion that killed 300.

HASTINGS, NEB.: In the second explosion within six months at the Hastings Naval Ordnance depot, several were killed and injured, windows in Hastings were knocked out, and a large area shaken up. The last blast, on April 6, 1944, left eight dead, three whose bodies were recovered, five who were never found.

Chief Charles L. McNett Dies

Charles L. McNett, who has been chief of the Clarendon, Pa., Volunteer Fire Company continuously for fifty-four years, died recently. He was the oldest active fire chief in the State of Pennsylvania and one of the three oldest chiefs in the United States.

Chief Charles L. McNett

Chief McNett was born on October 27, 1864, in Corry, Pa. He was torch boy for the Union City Volunteer Fire Company during 1875. He was appointed charter member of the Clarendon Volunteer Fire Company in 1882 and appointed chief in 1890.

He served as president of the Volunteer Fire Chiefs Association of Warren County and as forestry fire marshal for thirty years.

The first piece of equipment used by the Clarendon Fire Department was the Drake hose cart donated by Titusville, Pa. (home of the first oil well), which won world's speed record in 1870 or 1871.

Chief McNett is recognized throughout Pennsylvania oil fields as the first man to discover how to extinguish crude oil receiving tank fires with a water stream. Forty years ago, Chief McNett started to use three 2½-inch hose streams on each tank fire. The men were placed in a triangle position around the tank and the streams were directed about ten feet over the top and meeting at the same level over center to form a breakup or spray effect. The volume of spray smothered the fire.

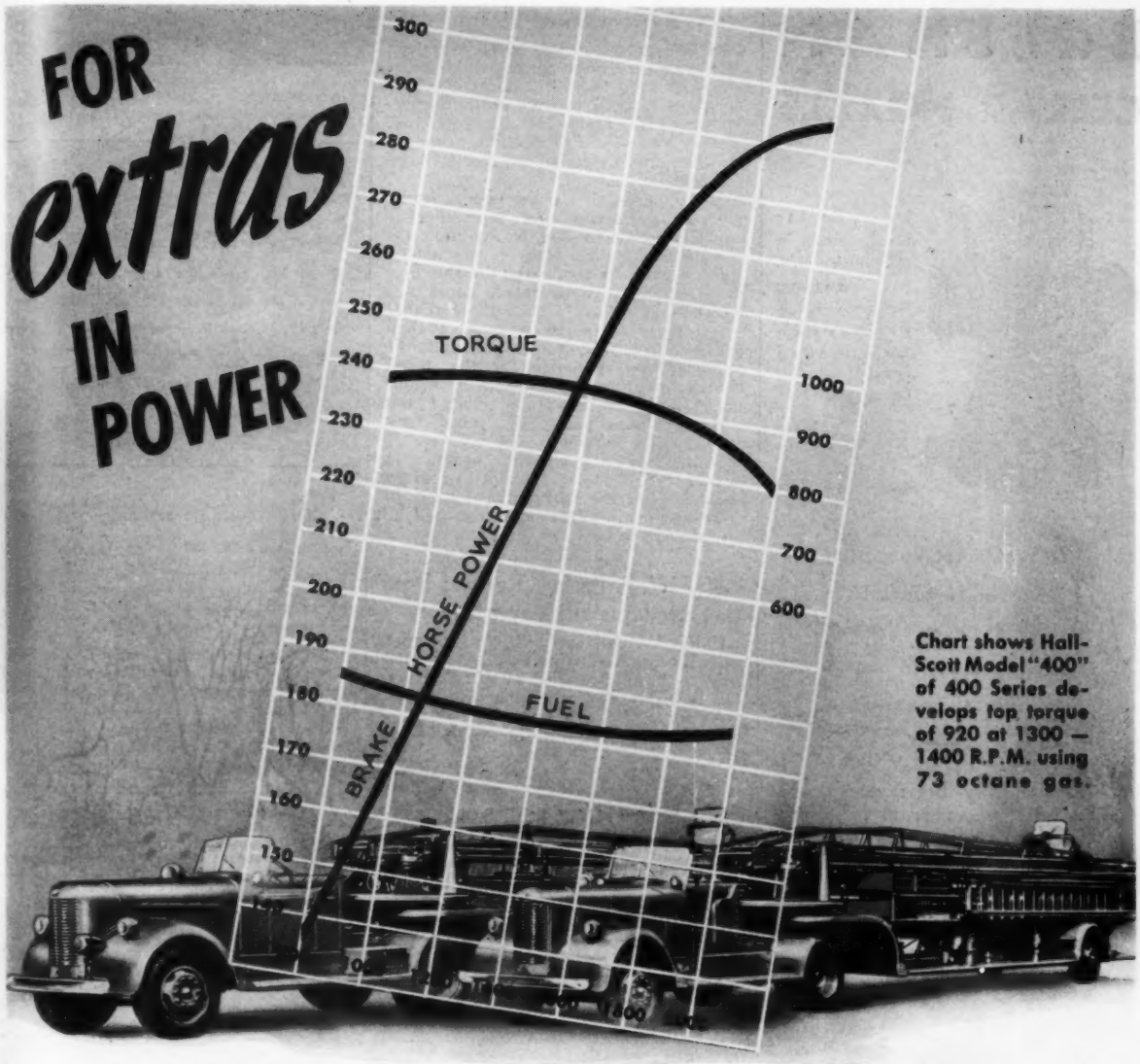
Albany, Cal.—City Council has appointed Fred C. Pimental fire chief to succeed the late John T. Riley.

A FULL HOUR'S PROTECTION
IN UNBREATHABLE AIR

M·S·A
1-HOUR
OXYGEN BREATHING APPARATUS

When smoke and gases fill the confined spaces your firefighters must enter in the course of duty, be sure the dependable protection of this standard Apparatus is at hand! Vital oxygen is supplied to the wearer for a full hour's time, even under strenuous exertion and heavy breathing. The M.S.A. One-Hour Oxygen Breathing Apparatus is light in weight, compact, completely reliable—in regular use by modern Departments throughout the country. Write for Bulletin BM-6.

MINE SAFETY APPLIANCES COMPANY
BRADDOCK, THOMAS AND MEADE STREETS
PITTSBURGH 8, PA.



Take your Tip from the TORQUE

Maintenance Departments know from experience that high engine revolutions ALONE signify little as to indicated useable power. High revolutions, in fact, materially shorten the life and step up maintenance costs.

The Hall-Scott "400" Series engines develop their full rated power at 2000 R.P.M., and maximum torque at 1300 R.P.M. This assures peak pick-up from stops and on hills, better all-around performance, longer life, and lower upkeep.

Due to its power, the "400" makes it possible for the first time to handle a 2000 gallon pump with the ease former engines handled 1000 gallon equipment.

The Hall-Scott design, as usual, allows the units to be removed for servicing and spares installed, in order that the vehicle may be returned to duty while repairs are made at the bench.

The "400" Series engines are furnished in the following sizes:

Model 470	*Model 480*	*Model 400*
5½" Bore,	5¾" Bore,	5¾" Bore,
6" Stroke	6" Stroke	7" Stroke

HALL-SCOTT MOTOR CAR COMPANY

FACTORY AND GENERAL OFFICES: 2850 SEVENTH STREET, BERKELEY 2, CALIFORNIA
FACTORY BRANCHES: SEATTLE, WASH. • LOS ANGELES, CALIF. • NEW YORK CITY
A Division of ACF-BRILL MOTORS COMPANY

BRESNAN
CELLAR NOZZLE

Bresnan Cellar Nozzle comes in 2½ inch only. Ball bearing movement. A rugged, perfectly balanced nozzle.

POWHATAN fire department brass goods have established a reputation for trouble-proof service over a period of many years—since 1892!

These quality brass goods are now available if you have the right priority—but after V day, all you want. Remember Powhatan for quality!

POWHATAN
BRASS & IRON WORKS

RANSON ★ WEST VIRGINIA

Phones 93 & 94 Charles-Town, West Virginia

Established 1892

Aftermath of Storm

Lack of electric power eleven days after the hurricane inconvenienced most households in Suffolk County (L. I.) but the handicap proved positively exasperating to Charles Hendrickson, chief of the volunteer fire fighting force in the town of Syossett on the North Shore of Long Island.

Fire, started in a two-story frame house at 2:00 A. M. on September 25 and Hendericksson had to summon his volunteers individually by telephone because the fire alarm siren in the firehouse, electrically operated, could not be sounded. As a result, the force of thirty that responded was more than an hour reaching the scene and the chief had to apologize for the delay. Fortunately, the fire was not a serious one. Indignant residents pointed out that there was plenty of "juice" fifty feet on either side of the firehouse.

Confronted with a similar situation in Sea Cliff (L. I.) where a fire occurred the day after the storm, the citizens of that town sounded the church bell to call the firemen, it is reported.

Chief W. B. Parkhill Resigns from St. Augustine Department

Chief W. B. Parkhill has resigned from the St. Augustine Fire Department and has been succeeded by E. W. Hartley, formerly assistant chief in the department.

FIRE TRUCK FOR SALE

American LaFrance type 75-750 gallon rotary gear pump (100% check 1938).

85 gallon booster tank pre-war rubber bought in 1938 (checked in 1943).

Actual road mileage 3,416 miles side box to hold 200 feet of 1½" hose. This 1924 model triple combination fire truck is available now interested parties please write E. L. Albrecht, Sr., Fire Chief, Signal Hill 6, Calif.

FOR SALE

Two-35 gallon, nickel plated, hand hammered ends, chemical tanks with all connections complete. Make offer. Richard E. Baird, Village Clker, Walden, N. Y.

POSITION WANTED

Fire Chief, now employed in government service, desires postwar position in field of Fire Prevention or Fire Control. 10 years' experience Age 35. Address: Box 90, c/o FIRE ENGINEERING, 24 West 40 Street, New York 18, N. Y.

WANTED—H. & L. TRUCK

If interested in selling American LaFrance Hook and Ladder Chemical Combined 1919, or similar model, write price and condition. Address: Box 85, c/o FIRE ENGINEERING, 24 West 40th St., New York 18, N. Y.

Classified Advertisements

Bids Wanted, For Sale and Help Wanted, $5 per inch. Position Wanted, $2.50 per inch

AGENTS WANTED

To sell high grade line of fire protection equipment and fire department supplies. Good proposition. Write—Schwartz Bros., Inc., 731-733 Filbert St., Philadelphia, 6, Pa.

"Established over 37 years."

FOR SALE

1-1929 Chevolet fire truck, 2-30 ft. extension ladders, 2 hose baskets, hose body, 350 gal. water tank, old style front end booster and draft pump, new siren and red light, spotlight, tires good, spare tire, motor excellent condition.

1-1933 Chevrolet fire truck, hose reel, hose body, 300 gal. water tank, spotlight, new siren and red light, dual rear wheels, tires good, motor excellent condition, portable Barton 70 g.p.m. pump with Wisconsin motor. Write Box 80 FIRE ENGINEERING, 24 W. 40th St., New York 18, N. Y.

WANTED

Fire Equipment Supply Companies, to sell Morning Pride Protected Rubber Firecoats, with Wing Sleeves, Chest Protector, Face Protecting Collar, Wool Wristlets, Double Shoulders, No Dirt Pockets. Also Firepants and Mitts. Write Morning Pride Mfg. Co., 1986 Home Ave., Dayton 7, Ohio.

CHIMNEY POWDER

No need to send men on the roof for chimney fires. Has-Mor Soot Destroyer not only puts the fire out, it continues to work until it cleans the chimney, making it unnecessary to go back to another chimney fire. Put up in handy packages. Agents wanted. Harry S. Morgan, 52 Broad St., Johnson City, N. Y.

FOR SALE
FIRE DEPARTMENT SUPPLIES

Portable Pumps, Floodlight Generators and systems. Double Jacket Fire Hose, Booster Hose, Coats, Helmets, Masks, Fog Nozzles, Sirens, complete line of Fire Department supplies. Box 30, c/o FIRE ENGINEERING, 24 W. 40th St., New York 18, N. Y.

FOR SALE

Immediate delivery, new 1250 watt 4 cycle generators, complete with 2-500 watt flood, 250 watt spot lights, cable and connectors. Also 500 watt generators and lights. Finest units ever made. Doray Fire Equipment Company, 1904 Valley Drive, Syracuse, 7, N. Y.

AGENTS WANTED

Sell popular $3 Dry Chemical Fire Extinguisher. Every household and car owner a prospect. His first hour's work paid Fireman Martin $21 profit. You can also wholesale to stores. Product established 10 years and well recommended. Fire-Killer Mfg. Co., 107-111 N. Franklin St., Syracuse 4, N. Y.

BEAN Orchard and Crop SPRAYERS

Represent 60 Years of Engineering and Manufacturing Leadership!

Since 1884, the name "Bean" has meant the finest in pest control equipment. Today, many thousands of Bean High-Pressure Sprayers are in use in every agricultural area throughout America and in many other parts of the world. The extraordinary designing, manufacturing and engineering "know how" gained through the building of Bean Sprayers and other FMC equipment, made possible the "*Water Buffalos*," the amazing amphibious tanks fighting with the Army and Navy. New and even better FMC equipment will serve the nation tomorrow.

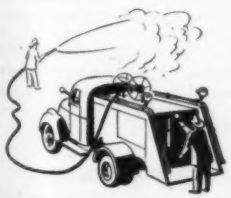
LAKELAND
RIVERSIDE
HOOPESTON
LOS ANGELES

FOOD MACHINERY CORPORATION

EXECUTIVE OFFICES: SAN JOSE, CALIF.

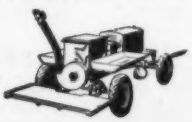
Bean Sprayers are manufactured by Bean-Cutler Division, San Jose, California and John Bean Mfg. Co. Division, Lansing, Michigan.

Other Typical FMC Products



JOHN BEAN MFG. CO.
Automotive Service Station Equipment, Fog Fire Fighters, Bean Royal Spray Pumps.
Lansing, Michigan.

Andersen-Barngrover Division Complete line of machinery for canning foods. San Jose, Calif.



Niagara Sprayer & Chemical Co. ... Insecticides for protecting crops from insects and diseases. Middleport, N.Y.; Jacksonville, Fla.; Burlington, Ont., Canada.

Texas Division... Food Protective Processes, Fruit & Vegetable Packing Equipment, Canning Machinery. Harlingen, Texas.

Riverside Division. Citrus Packing Equipment, Automatic Box Making & Lidding Machinery, Fruit and Vegetable Protective Processes. Riverside, California.

Florida Division... Citrus and Vegetable Packing Equipment, and Food Protective Processes. Dunedin and Lakeland, Florida.

"Water Buffalo" amphibious tanks. 7 of Food Machinery Corporation's 14 major factories are making "Water Buffalos" or sub-assemblies.

Sprague-Sells Division. A complete line of food canning machinery. Hoopeston, Illinois.

Peerless Pump Division. Deep well turbines, hi-lifts & pumps handling water for every purpose. Los Angeles and Fresno, California; and Canton, Ohio.

H.O.R.
MECHANICAL
SIRENS

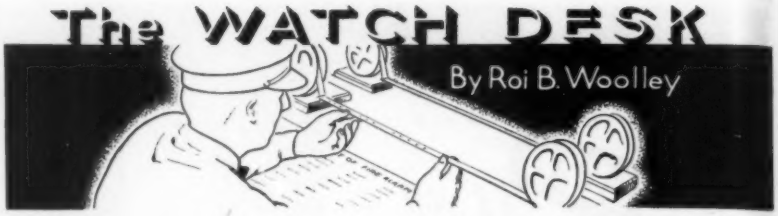
NOW
AVAILABLE

NOW you can purchase H. O. R. equipment for your apparatus or officers' cars, mechanical sirens, flashers, floodlights and other equipment for fire department safety. Protect your own! Get the best the field offers—specify H. O. R.

Write for folder

H. O. R. CO., INC.
10 BROAD STREET
Stapleton, Staten Island, N. Y.

The WATCH DESK



Our inquiring reporter overhauls the firemanic news of the day

Tragic Accident

Albert Hill, Keyport (N. Y.) a volunteer fireman, attempted to leap on the left side of the Lincoln Hose Company's pumper as it was leaving the firehouse to answer an alarm. The truck was new and Hill, on boarding the truck, instead of grabbing at a familiar bar that was on the old apparatus, took hold of the handle of the door which flew open and threw him under the rear wheels, where both his legs were crushed.

Allyn Lee, driver of the apparatus, stopped within a few feet. Hill was rushed to the hospital by the Keyport first aid squad where his right leg was amputated. He had received three compound fractures of one leg and the ankle section of the other crushed. He has two sons in the Army. The fire was insignificant.

* * *

West Mifflin Miffed

There's trouble a-brewin' over the much-discussed and cussed fire hydrants in West Mifflin (Pa.). Some time ago Fire Chief Paul E. Martin and the borough officials had a set-to, Martin protesting that the fire hydrants are too widely scattered in some sections of the former township and the water supply insufficient to provide adequate pressure in case of fire. Martin didn't get very far (how often fire chiefs who ought to know their business are overruled by civil authorities, who don't know theirs!) but shortly after his protest, a Camden Hill home (in the township) burned to the ground because the firemen couldn't get water to fight the blaze. That tore it!—now Martin has renewed the dispute, with representatives of the New York company which supplies the water (what there is of it), and the borough officials and it is reported plans are reported being completed to correct the trouble.

* * *

Page Mr. Ripley

If we didn't know and trust the veracity of Hugh W. Morse, chief, General Cable Corp. fire department, and the Utica Press, which printed the item, we'd call it a "Ripley." Tennyrate, here it is: all about a fire that started itself, then put itself out.

It wasn't paricularly warm, that day in Utica, (N. Y.) but hot enough for the dirty work at the crossroads, where Howard R. Jones, spring water dealer of Whitesboro, was delivering five gallon bottles of water to business places.

He noticed smoke at the rear of his truck and, as he investigated, he heard a pop, some sizzling and saw more smoke. By the time he got the tailboards off the truck enough water had leaked out of a heat-broken bottle to put out a fire that had charred the wood floor of the truck.

"It isn't often the thing which starts a fire also puts it out," Jones chuckled, *"but it's comforting to know I carry my own fire fighting equipment."*

Yes, another case of the sun's rays shining through quarter-inch glass of the bottle's bottom, to ignite the truck floor, and, in this case when the fire got going nicely for the heat to break out the bottom, permitting the water that caused the fire to douse it.

* * *

"Smokestack Hardy Reports"

"Smokestack" A. Hardy, Baltimore 'Auxxy' and demon newsclipper reports:

Their Good Deed for the Day

Federal Forest Supervisor Wm. V. Mendenhall, Los Angeles (Cal.) reported that two Boy Scouts on a rattlesnake hunt were responsible for a fire which burned five acres of brush. But their record, it turns out, wasn't too bad, because they and some of their comrades put the blaze out. Hunh—mebbe they rubbed the sticks the wrong way?

* * *

Ride in Red Car Does Wonders

From Kansas City (Kan.) comes account of how seven-year old Verbal Boyd Morris didn't complain despite burns on his arms, shoulders and face when grease in a skillet caught fire. Seems that Robert N. Darnall, Assistant Fire Chief rushed him to the hospital in his red car, not sparing the siren. And he promised Verbal another speedy ride home in a fire department car when he's dismissed.

* * *

Don't Tell Us—Two Ripley's!

Elsewhere in thiis column we carry the account of how water in a bottle caused a fire and put it out in Utica (N. Y.) Now comes one from Dark Harbor (Me.) that looks like collusion. Dated Sept. 8, 1944, this item says that when the sun's rays passing through a glass bottle of spring water on P. E. Hatch's truck, set fire to the vehicle, another bottle was exploded by the heat and the water extinguished the blaze. Man, that's pretty powerful "fire water" sez we.

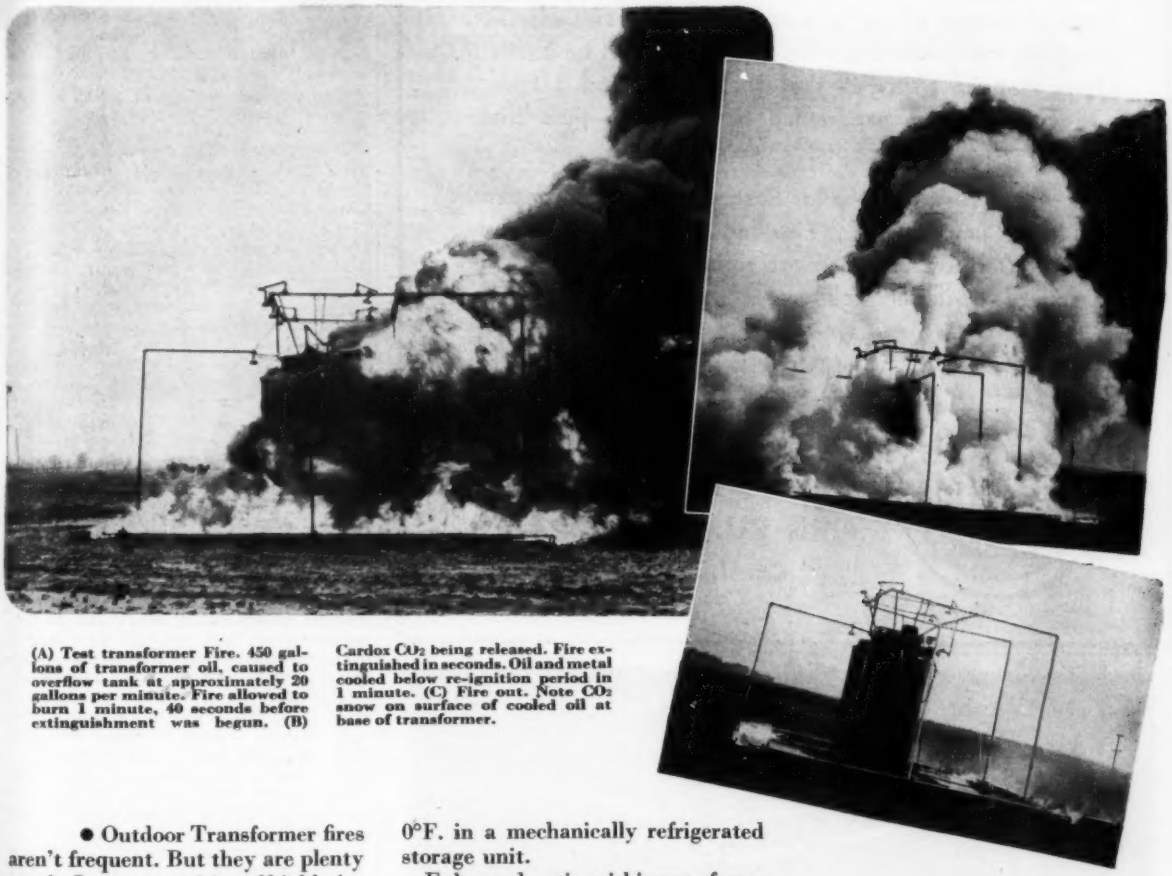
* * *

Sanford Dewey Reporting

From Watertown (N. Y.) we learn that mayor Charles A. Winslow has inaugurated a program to purchase a new piece of fire apparatus each year during his four year tenure. August saw order for first pumper placed—a

NO PLACE FOR

Too Little...Too Late



(A) Test transformer Fire. 450 gallons of transformer oil, caused to overflow tank at approximately 20 gallons per minute. Fire allowed to burn 1 minute, 40 seconds before extinguishment was begun. (B) Cardox CO_2 being released. Fire extinguished in seconds. Oil and metal cooled below re-ignition period in 1 minute. (C) Fire out. Note CO_2 snow on surface of cooled oil at base of transformer.

● Outdoor Transformer fires aren't frequent. But they are plenty tough. Large quantities of highly inflammable oil get the fire off to a fast start. Metal temperatures soar. Extinguishment and cooling must be swift, or costly equipment becomes junk. Cardox Fire Extinguishing Systems are engineered to meet just such difficult requirements.

Transformers represent only one of the many tough hazards given protection by Cardox Fire Extinguishing Systems. Engineered applications of Cardox Systems provide quick extinguishment of both large and small fires involving "A", "B" or "C" hazards, or a combination of all three types of flammables.

TONS FOR LARGE FIRES POUNDS FOR SMALL ONES

A Cardox System—engineered for the specific hazards it covers—extinguishes fires by a timed *mass* discharge of Cardox CO_2, stored at 0°F. in a mechanically refrigerated storage unit.

Enhanced extinguishing performance is possible because, as controlled and applied in Cardox Systems, Cardox CO_2: (1) Has uniform extinguishing characteristics regardless of plant or atmospheric temperatures; (2) Applications can be engineered to the requirements of each specific hazard covered; (3) High CO_2 snow yield provides increased cooling effect (carbon dioxide released at 0°F. yields 45% CO_2 snow); (4) Effective projection through relatively great distance is achieved —even outdoors.

If you would like more information for use in solving current war plant fire protection problems . . . or in formulating fire protection plans that will prevent dangerous delays in getting post-war production in high gear . . . write on company letterhead for Bulletin **584.**

CARDOX CORPORATION
BELL BUILDING • CHICAGO 1, ILLINOIS

District Offices in
New York, Boston, Washington, Detroit, Cleveland, Atlanta, Pittsburgh, San Francisco, Los Angeles, Seattle

CARDOX
CO_2 FIRE EXTINGUISHING SYSTEMS

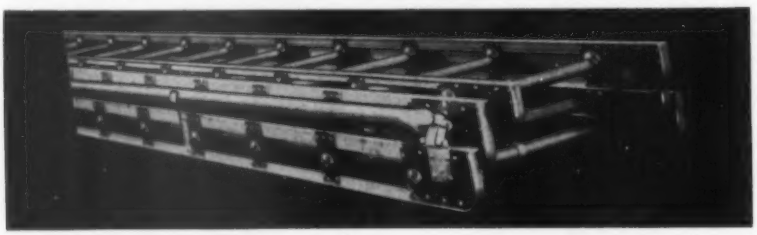
DANGER AHEAD . . .

To all Firefighters the red in Fall foliage is as sure a sign of danger ahead as a red flare to a railroader . . . and the many who use Hale Fire Pumps will be particularly thankful *this* Fall that they "Specified a Hale." They know from experience how a Hale pulls them through the tough spots.

Whether Pre-War, War or Post War, you can depend on Hale Pumps built for Fire Engines . . . because they are backed by 30 years of rigid adherence to high standards of dependability.

Write for up-to-date information on Hale Fire Pumps, built in all standard capacities.

HALE
FIRE PUMP COMPANY
Conshohocken, Pa.



Again Available
STRONG-LIGHTWEIGHT
Aluminum Ladders

★ Reallocation of aluminum by the government permits the manufacture of a limited number of fire department and industrial ladders. The three section, aluminum, heavy duty extension ladder illustrated is type 3 EL. Its unusual strength combined with remarkable light weight makes it one of the most popular fire ladders ever designed. Because of these characteristics . . .

. . . a 65 foot ladder of this type can easily be raised by four men and a supervisor — an impossible feat with ladders not made of aluminum.

FOR GREATER SAFETY AND EASE OF HANDLING

The locks operate automatically at any desired point during ladder extension. The rope and flexible cable are arranged for simultaneous automatic extension of both flies.

★ ★ ★

Write for information on standard sizes and aluminum ladders built to specifications

Aluminum Ladder Company

200 Carbis Street
Worthington, Pennsylvania

$10,600 12-cyclinder cab job! An $18,000 aerial was recently delivered.

James Warren, Boonville (N. Y.) got credit for preventing serious fire in town high school, when, remaining behind class to prepare his address for class night, and standing alone on school stage to practice, he discovered flames shooting up the stage decorations. Warren pulled down curtains in unsuccessful attempt to kill the fire before summoning Boonville Vamps. Firemen, who confined fire to stage reported considerable damage done, but praised Warren for prompt action.

Mort than $10,000 damage was caused by fire of undetermined origin which levelled a 100x74 foot barn on Charles Christy farm, two miles from Potsdam (N. Y.), resulting in death of two horses, six head of cattle, 35 hens.

Potsdam Vols. keeping the booster of their pumper filled with water carted by trucks from the nearest village hydrant, managed to save the farm house and prevent brush fires spreading to nearby hay fields. Fire marked third time in past 45 years that the barns on the property burned. Some folks never seem to profit by bitter experience.

Fire fighters of the Malone (N. Y.) Callmen's Associaton weren't so lucky, when a large barn and connecting two story frame house of Fred Perry farm near that town were consumed by flames, when the water supply gave out.

And while we're discussing barn fires, three Northern New York fire departments saved buildings on the Henderson farm near Plessis (N. Y.) when fire destroyed a milk house and Plessis Vamps were unable to get the motor of their pumper started to respond to the call. Brothers from Theresa, Redwood and Alexandria Bay sped to the scene after Plessis pleaded for help. Milk house went up, but a barn 15 feet away was saved. There's something to this mutual aid business after all!

In another mutual aid call, in which the Antwerp (N. Y.) Department went to the aid of the Philadelphia (N. Y.) Brothers, under chief John Jones, two persons were burned to death, another died of suffocation and a fourth was rescued by firemen, when fire razed 30-year old 3-story frame Hotel Philadelphia. Engineer of a New York Central train, discovering fire about the time citizens did, tooted whistle, arousing the town. Two 1,000 pumpers unable to cope with fire spreading in strong wind, were reinforced by Antwerp lads. The hotel, an old landmark was razed, but local New York Central depot was saved.

* * *

Hot Off the Tape

In Rome (N. Y.) a white poodle dog caught fire while asleep behind a stove in kitchen of home of Gladys Hall. The animal, which lost much of its curly locks, survived the experience. Deputy Chief Bentley found a wood fire in the stove had ignited clothes hanging nearby, and falling sparks resulted in a "hot-dog." (Thanks Chief H.W.M.) . . . In New Haven (Ct.), four experienced coal handlers were called in a hurry to remove 170 tons of soft coal from a bin in base-

1-2-3--OUT!

Fire takes a fast knockout when PLUS-FIFTY DUGAS Dry Chemical comes into the picture. For PLUS-FIFTY DUGAS Dry Chemical brings you fire-stopping power of amazing swiftness, sureness.

As speedily as it strikes flames, PLUS-FIFTY DUGAS Dry Chemical releases a large volume of fire-smothering gases that quickly prevent small fires from becoming big ones. And PLUS-FIFTY DUGAS Dry Chemical is harmless to both men and machines.

PLUS-FIFTY DUGAS Dry Chemical comes to you ready for instant fire-fighting duty. Stays that way, too... won't deteriorate during storage.

Write us today for additional facts, along with priority information regarding DUGAS Fire Extinguishing Equipment.

Approved by Underwriters' Laboratories and Factory Mutual Laboratories.

PLUS-FIFTY
duGas
REG. U. S. PAT. OFF.
DRY CHEMICAL
U.S. PATENT 1759668

MODEL 15
HAND EXTINGUISHER

CHART showing characteristics of all types of approved hand fire extinguishers sent FREE on request.

DUGAS ENGINEERING CORP.
OWNED AND OPERATED BY
ANSUL CHEMICAL COMPANY, MARINETTE, WISCONSIN

ment of a school so firemen could get at precocious fire started by spontaneous ignition at bottom of pile. Somebody hadda kindly thought for the Brothers! . . . . When Carl von Reisemann Riverside Drive, N. Y. C., staggered out of his 7th floor apartment crying *"I've been gassed"* an ambulance squad, three radio cars and F D squads rushed to scene to discover a neighbor, Mrs. Percippe, had left a sulphur candle burning to exterminate roaches. . . . Fourteen firemen of Los Angeles were reported injured in a traffic accident between vehicle they were riding and an automobile. . . . Oakland (N. J.) firemen have at last housed their new pumper in fire headquarters. They hadda enlarge the doors before they could get "big beauty" indoors. . . . In Poughkeepsie (N. Y.) they propose to sell four firehouses to provide part of cost of a central station. . . . In Pasadena (Calif.) erection of a new fire station is being violently opposed by property owners of the vicinity in belief that *"it would damage property values."* There are none so blind as those who *won't* see. . . . The West End Protective Association, Middletown (Conn.), has received permit from WPB to start construction on its proposed new fire station and community hall. . . . Over'n Elsmere (Del.) there's much agitation for a new municipal building and fire hall. . . . It's recommended that Providence (R. I.) have a new fire station in the southern section of the city. Reopening of No. 5 station, now housing civilian defense, is also recommended. . . . In Bethalto (Ill.) an auxiliary pumper and other equipment has been purchased, and construction started on new fire hall to house the apparatus. . . . In an effort to save men, Chief Terrence Mulligan, Sacremento (Cal.) urged closing of a firehouse and transfer of equipment and men to another. The Council didn't agree—but thus far hasn't found him the needed men. . . . The Goldenham Fire District, near Newburgh (N. Y.) is to have a new fire house. . . . Chief John Alderson, Los Angeles (Cal.) has requested the Fire Commission to speed up selection for sites for two new fire stations. . . . In Pittsfield (Mass.) there's a squabble about changing the site of the present West Pittsfield Fire station—Councilmen don't see eye-to-eye (which isn't so startlingly strange!) . . . . The Independent Fire Company Station, Shamokin (Pa.), was badly damaged by a gas explosion. . . . Leroy Spaulding Fales, New Jersey State Fire Warden and coordinator of the Forest Fire Fighter's Service of OCD died at West Milford (N. J.) at age of 68. . . . Police, firemen and citizens joined in half hour battle to prevent Mrs. Angelus Ferreiro, New York City from throwing herself from roof of a 6-story apartment. They succeeded. . . . No less a person than Hollywood commentator Jimmie Fidler fell for the bunk about Frank Sinatra's father being made chief of the Hoboken (N. J.) Fire Department. He broadcast the "news" with great eclat on his Sunday, September 24, program. . . . Rescuers have finally found the bodies of fifty coal miners killed in a fire July 5 at Powhatan (O.). . . . Salt Lake City has put its new "Big Dan" aerial ladder through the toughest of tests. It wants no more ladder mishaps. . . . In Alton (Ill.), citizens gathering funds to purchase a new

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VALVES
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Pipe Line
Accessories

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VALVES: A. W. W. A. types, iron body, bronze mounted with double-disc parallel seat or solid wedge type. Non-rising stem, outside screw and yoke; or with sliding stem and lever. Also furnished hydraulically operated. Square Bottom type operates in any position. All are rugged and dependable, made of best material with highest quality workmanship.

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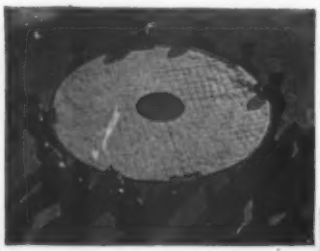

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aerial ladder have collected $10,500. Fire Chief Arnold Gibson is beaming. . . . How's this for headline: "TOWN TO PURCHASE PUMP FOR DUMP." Ask'em about it Poughkeepsie (N. Y.). . . . Farmers and business men have formed rural fire protection district in the Rocky Ford (Colo.) section. Fifteen fire districts, we're told, have been organized in Colorado. . . . Folks of Moundsville (W. Va.) want more adequate fire protection. . . . Over'n Sisterville, same state, the city has passed an ordinance "to continue and maintain the service of fire protection. . . . Also, add to the record the fact that the Plunketts Creek Fire Protection Association has elected Joseph Blair, chief and is conducting a financial campaign to raise funds for fire fighting equipment—same being a truck on which to mount its civilian defense pumper. . . . The Town of Gladwyne (Pa.) is to have own fire company. . . . Members of the Griggsville (Tenn.) Vol. F. D. are working to get new equipment and to provide fire protection to farmers in larger area. . . . North Ogden (Utah) has started a fire department, with an OCD pumper as nucleus. County Fire Chief E. L. Jensen conducted the demonstrations. . . . Six volunteer fire chiefs of Town of Greenwich are at work condensing their old fire prevention Code.

* * *

August Cover Picture

PHILADELPHIA, PA.: That fire pictured on the cover of the August issue and unfortunately not described in the book brought a number of inquiries from the Faithful. Here's the story: The six-alarm blaze destroyed two buildings housing the Berman Carpet Company and Herrow Novelty Company in midtown Quakertown, causing damage estimated at $500,000. More than 10,000 people watched half the city's fire force battle blaze more than three hours. Seven firemen went to hospitals, one critically injured. More than fifty others treated at the fire. A four-alarm fire broke out in North Philadelphia while firemen were still at midtown fire and swept through a junk yard destroying 100 tons of rags and paper, with damage at $10,000. Cause of both fires "not immediately determined."

Virginia Firemen Meet

Members of the Virginia State Firemen's Association, meeting in annual convention at Harrisonburg, Va., elected J. G. Crenshaw, Wythe district, Elizabeth City county, as president on Aug. 10.

Other officers selected were: B. B. Barker, Newport News, secretary; L. A. Ballard, Salem, vice-president; Rev. J. C. Garber, Staunton, chaplain, and E. Wilmer Coffman, Harrisonburg, treasurer. The convention will be held in Roanoke next year.

The auxiliary officers are: Mrs. Arlene B. French, New Market, president; Mrs. Elsie Crane, Alexandria, vice-president; Mrs. Florence Andrews, Chincoteague, secretary; Mrs. Louise Boer, South Norfolk, treasurer; Mrs. Alice Guckert, Pendall, conductress; Mrs. Mary Zirkle, Lurray, assistant conductress; Mrs. Casper Henkle, Harrisonburg, pianist, and Mrs. Effie Kline, Strasburg, chaplain.

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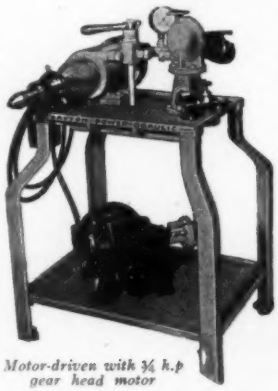

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Tests hose up to 700 lbs.

Extra attachment removes old expansion rings from old couplings. No manual effort needed. ★

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North Carolina Firemen Meet

The North Carolina State Firemen's Association held its fifty-seventh annual convention at the Hotel Charlotte in Charlotte, N. C., on September 13-14.

Reports showing that city fire departments during the last year have maintained peacetime efficiency in spite of such exacting wartime handicaps as sharply reduced manpower and imperilment of prescribed standards of automotive stringency were submitted.

The 400 delegates at the opening session heard addresses by R. Gregg Cherry of Gastonia, Democratic nominee for Governor, who dealt analytically with a number of problems related to the war and the period immediately to follow the conflict; by Mayor Herbert H. Baxter and former Mayor Ben E. Douglas of Charlotte; Clarence O. Kuester, manager of the Charlotte Chamber of Commerce; Charlotte Fire Chief W. Hendrix Palmer, who is past president of the state association and the International Association of Fire Chiefs; and Chief R. A. Joyner of Farmville. Chief Charles L. Burkett of Salisbury presided.

State Fire Marshal Sherwood Brockwell, of Raleigh, presented a report on State fire school conducted last May at Palmer Drill tower, Charlotte.

Frank W. Bennett, chief of the Durham Fire Department, was elected president; J. C. Fitzgerald fire chief for Asheville, was chosen vice-president; John L. Miller, Concord fire chief, was elected secretary; Ed Johnson, assistant chief of the Kannapolis Fire Department, was made treasurer, and Albert W. Brinson, fireman from New Bern, was made statistician.

At a date as yet undecided, the executive committee will meet to determine the site of next year's convention.

D. G. SPENCER

Book Shelf

RISKS WE FACE, AN INTRODUCTION TO PROPERTY INSURANCE, by Lawrence J. Ackerman and Ralph W. Bugli; Distribution by Prentice-Hall, Inc., 70 Fifth Avenue, New York, N. Y.; Price $2.50.

This is the first book of its kind—a brief, non-technical manual of property insurance. Fire insurance protection forms its basic theme, but tornado, hail, explosion, auto, marine, and other types of insurance are also included. The emphasis is not on technicalities but on the development and economic importance of the principles and practice of property insurance.

In outlining the fundamental need for protection, the book sketches the part insurance has played in history and then tells a concise story of property insurance in action today—the types of risk-bearers, the contracts which insurance companies issue, the work of the local agent and the broker. The basic elements of a typical property insurance policy are analyzed in non-technical language.

The authors are authorities on the subject of insurance. Laurence J. Ackerman is Dean, School of Business Administration, University of Connecticut, an experienced teacher of insurance and well known as a special consultant. Ralph W. Bugli represents the National Board of Fire Underwriters.

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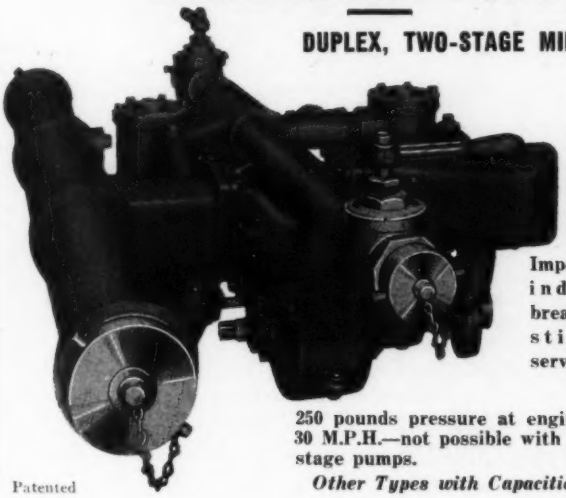

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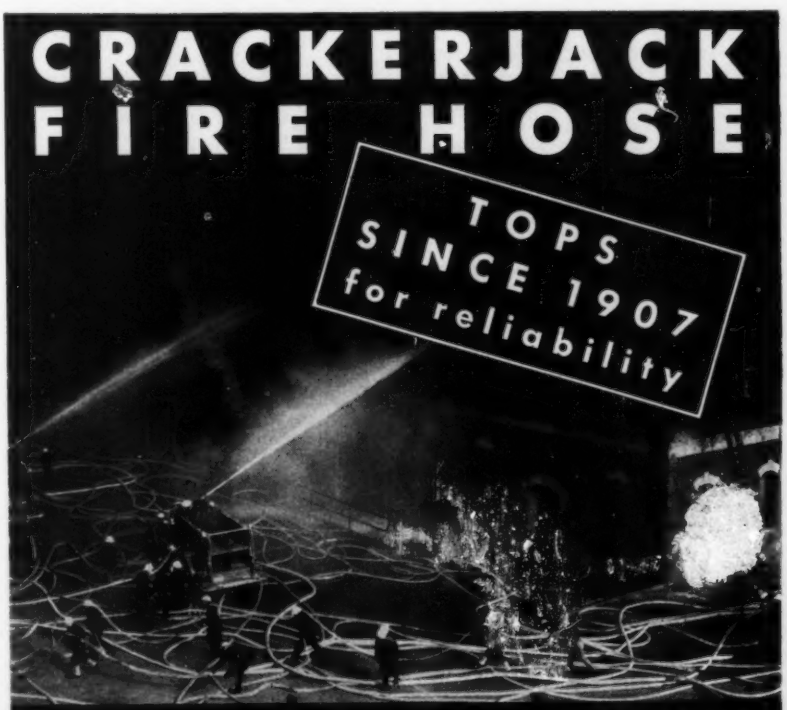

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Manufacturers
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Pennsylvania Firemen's Training Conference Held

(*Continued from page 728*)

viser of Fire Service Training, in charge of the Fire School, again directed the Conference. Chief "Abe" Yearick of the Lewistown Fire Department acted as Co-Director, and "Charley" Clark, Secretary of the Pennsylvania State Firemen's Association, performed the secretarial duties. A staff of forty-seven able instructors and the Lewistown fire department handled the daily training program.

The conference was again divided into ten sections in which were enrolled fire fighters who sought specific instruction in the several branches of fire fighting and fire prevention service. A new section for Arson Squad members was well received. Three Special Agents of The National Board of Fire Underwriters, headed by Howard M. Travis, taught the subjects in this section.

Work at the Drill Tower was supervised by Captain Joseph P. Fay of the Pittsburgh Fire Department. Battalion Chief Frank Rowe of the Philadelphia Fire Department directed the Rescue Squad Section. Other sections were supervised by Chief Otto Johnson of Easton, Bob McCleaster of Harrisburg, Jim Donnon and Frank Figarola of Yeadon, George Cartwright of Johnstown, Bill Marsh of Lewisburg, Chief Al Blaine of Camp Hill, Cresson Zimmerman of Norristown and their respective aides from equitably situated points within the Commonwealth.

Five hundred and forty-five were enrolled for the week of intensive training, exceeding all past records. Aside from twenty-seven manufacturers' representatives who hail from other sections, there were three fire fighters enrolled from Maryland; eight from New York; five from Ohio; and two from New Jersey.

The entire fire company representation from Mifflin County; the WAC Fire Fighting Unit from Indiantown Gap, and the Lewistown Ladies' Ambulance Corps presented special exhibitions. Outstanding speakers also appeared nightly.

Chief Carl Peterson Dies

Fire Chief Carl G. Peterson, head of the Trumbull, Conn., Fire Department for the past twenty years, died on September 21 at the U. S. Veterans' Hospital, Newington, after a short illness.

Chief Peterson held many offices in his town along with his many years association with the Fire Department. He was a member of the Trumbull Board of Education, Building Commission, Trumbull American Legion Post and the Boy Scouts.

He was also a former President of the Fairfield Fire Chiefs' Emergency Plan. He is survived by his wife, Mary Peterson, and a brother and sister. Chief Peterson was born in Bridgeport, the son of one of the oldest Swedish families in that city. He served in World War I with the 57th Engineers and held the rating of Sergeant.

Many well known Fairfield County fire officials attended the funeral which was held on September 23.

THOMAS F. MAGNER

One of 70

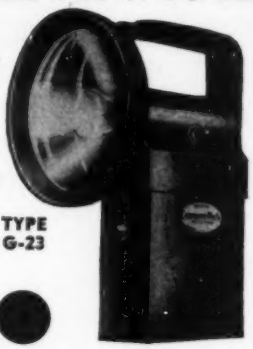

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Fig. 403

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PACIFIC COAST NEWS
By Bob Greenock

Coast Guard Combats Smoking

The recent holocaust at Port Chicago which, while the cause is unknown, may have been touched off through carelessness of a smoker, has served to focus attention on violators of no smoking edicts in effect along the waterfront and on military reservations.

In the San Francisco Bay Area the Coast Guard, acting under orders of Commander Paul B. Cronk, the Coast Guard Captain of the Port, has been conducting a drive since April 1 in a crackdown on violators. More than 30 men, most of them civilian dock workers, longshoremen or ship repairmen, have been arrested and arraigned before judges sitting in Federal District Courts.

The judges, among them A. F. St. Sure, Michael Roche and others, have aided the drive by imposing penalties, severe in comparison with those that were given out a few months ago. Penalty for conviction runs up to one year imprisonment and/or a $5,000 fine, according to Lieutenant John J. Sullivan of the Coast Guard, whose job in the Bay Area is to prosecute violators.

Where small fines were levied in the past, 60 or 90 days in jail is now considered a light sentence.

Richard T. Nelson, first officer of a merchant ship loading at Benicia Arsenal and whose name was signed to "No Smoking" notices posted aboard ship, was fined $250 when a Coast Guard Port Security guard found him smoking in his quarters. Victor J. Samulis, a merchant seaman of Cleveland, O., got 90 days in jail for smoking aboard a vessel loading explosives at the Port of Richmond, and even his excuse that he lighted his cigarette with a blow torch with which he was working at the time did not save him.

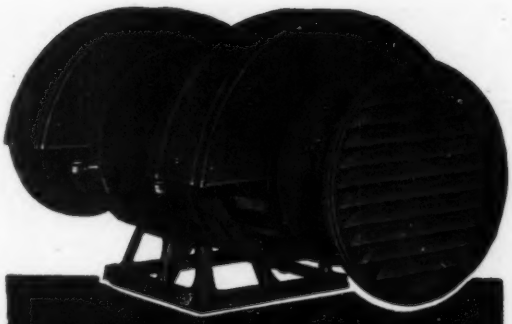
Commander Cronk said Coast Guard officers investigating small fires aboard ships and along the docks have found evidence that smoking was the cause in nearly every case. With San Francisco rapidly approaching the No. 1 position among the nation's embarkation ports, greater caution than ever before must be employed, he said.

Arson Case Closed

George Holman, 46-year-old Negro cafe owner, found guilty by a jury of seven men and five women in San Francisco Superior Court on 22 counts of murder—one for each of those who died during the disastrous New Amsterdam Hotel fire of last March 27—has been sentenced by Superior Judge Murphy to spend 22 life terms in prison, the sentences to run consecutively rather than concurrently.

Since, under California law, seven and a half years must be served on a life sentence before a parole eligibility, the minimum time for 22 consecutive terms would total 165 years, one of the sternest sentences ever meted out in San Francisco Superior Court.

Court attaches declared Holman's sentence the "toughest" handed down since the Howard Street gangster rape-murder case of years ago when the defendants were sentenced to a straight 50 years in



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Write for literature.

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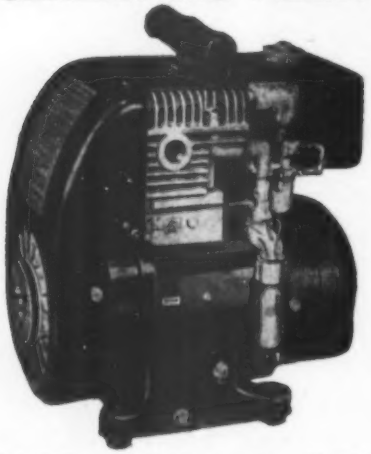

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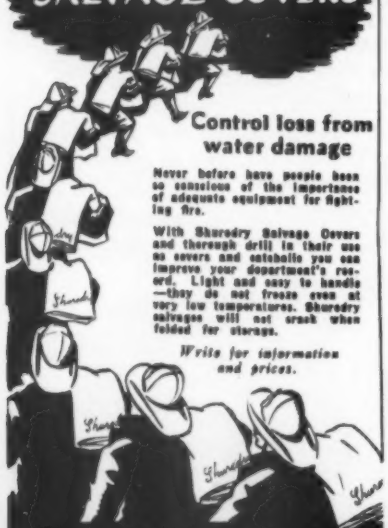

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prison. That, however, was before passage of the indeterminate sentence law.

Holman, charged with having set the frame hotel afire to "get even" with his alleged paramour, Gertrude Jordan, was stunned by the sentence.

The sentence climaxed a trial of several weeks, a trial brought about by the worst holocaust by fire that has hit the city since the earthquake and fire of 1906. Fire officials testified that the fire spread so rapidly and with such great intensity that some volatile liquid must have been used to feed it.

* * *

Hail—But Not Farewell!

Frederick (Fred) J. Bowlen, Battalion Chief and Historian of the San Francisco Fire Department, retired after 41 years of service, due to ill health.

Batt. Chief Fred Bowlen

"Fred" as almost everyone on the Coast knew him, held the rank of Battalion Chief from 1919 until last year when he was advanced to Deputy, devoted every spare moment to his unofficial job—that of Historian of the Department.

The 1906 conflagration wiped out all historic records of the department. Bowlen, who had kept records of what went on in the department since the day he reported for duty November 1, 1903, spent his off-duty hours delving and his vacations in research at libraries throughout the State in the monumental job of not only restoring those records but in bringing the story up to the minute. The result is the History of the San Francisco Fire Department, a stupendous work of 60 chapters, more than 22,000 typewritten pages and more than eight million words!

His history, beginning with the first fire in the shanty-shack-adobe hamlet that was San Francisco in 1847, on through the volunteer and Horse Age to the modern motorized department, has helped settle many a dispute over "who was who" and "what was what."

"For 41 years," said Chief Bowlen, "I have had the companionship of the finest and noblest body of men ever organized in any branch of public service. It is with much regret that I am compelled to retire. To the officers and men of the Fire Department and to the citizens of San Francisco I extend my best wishes and thanks for their assistance, cooperation and warm friendship shown through the years. May the spirit of

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APPLICATION
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the pioneers of San Francisco continue in the department!"

Actually, the chief hasn't retired for already he's digging through the archives and adding words to the amazing history he has compiled already. Fred Bowlen just couldn't be contented being put out to pasture.

Chief George F. Schaefer Retires

Another popular officer of the San Francisco Fire Department retired in August — Battalion Chief George F. Schaefer, formerly head of the S. F. Auxiliary Fire Department.

Chief Schaefer entered the department on June 1, 1912. He was made a lieutenant on March 1, 1921, was promoted to captain January 29, 1923, and was made battalion chief October 16, 1930.

A member of the U. S. Coast Guard before being appointed to the department, he spent most of his time as battalion chief in the Third Battalion. Three years ago he was badly burned in an explosion at a provision house fire and as a result was hospitalized for 21 days and spent many weeks on sick leave.

He returned to duty in the Third Battalion until July, 1942, when Chief Albert J. Sullivan, unable to continue as head of the Auxiliary Department and act as Chief Engineer in the absence of Chief Charles Brennan (retired), who was ill, appointed him to head the auxiliaries, which job he held for two years.

"An officer, gentleman, and splendid fire fighter who has served the public well and upheld every tradition of the Fire Department" is the parting tribute paid him by Chief Sullivan.

Chief Schaefer is married, has two daughters and a son.

Captain Murray Promoted

Appointed to fill the vacancy caused by his retirement was Captain William Francis Murray, son of a Fire Department officer; he was appointed to the Department September 9, 1920, made a Lieutenant December 10, 1928, elevated to Captain May 11, 1939, and has been Acting Battalion Chief, 6th Battalion, since January 31, 1944.

Chief Murray, married and father of a son, is widely known in the Department, having served with nearly every company in his 24 years of duty. He at one time managed the Department's Glee Club and has for some time been chairman of the publicity committee of the Annual Fireman's Ball.

New Jersey Chiefs Hold Meeting

At the annual meeting of the New Jersey State Fire Chiefs' Association held in the Hotel Stacy-Trent in Trenton on September 16, Former Chief Charles W. Greenfield was re-elected President. This marks his completion of twenty-five years of service to the Association. Other officers who were re-elected include Chief Arthur L. Bilby, Montclair, N. J., Vice-President; Ex-Chief George L. Mitchell, East Orange, N. J., Treasurer and Ex-Chief Fred A. Trowbridge, Morristown, N. J., Secretary.

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New Firemen Need Them!

Inexperienced men filling in due to shortages caused by war can learn quickly and thoroughly all fire-fighting fundamentals. Municipal and industrial plant libraries cannot afford to be without them!

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Electrically-operated, the CIRCUL-AIR dries hose in a very few hours—25 to 50 times faster than a tower or a rack. Makes wartime fire hose last longer. By prolonging the life of hose now in service and, by quick drying, lessening the need for large hose reserve for "reloads" while wet hose is drying, CIRCUL-AIR helps to build up the Nation's rubber stock pile.

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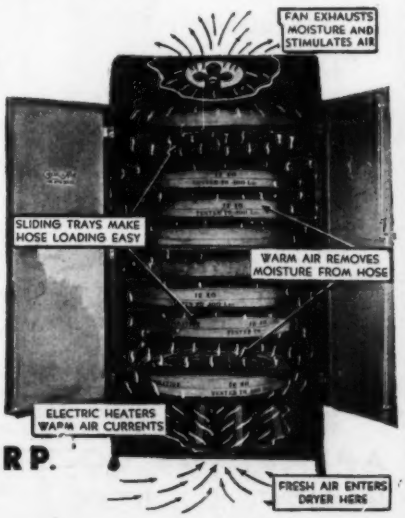
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BOYER FIRE
APPARATUS CO.
LOGANSPORT INDIANA

Manufacturers' Announcements

Crash Axe Announced

The American Mercantile Company, Inc., 33 West 42 Street, New York, N. Y., has announced a steel crash axe, made originally for the U. S. Army Air

Crash Axe

Forces to their own specifications. These specifications were for 1095 steel treated to give a Rockwell reading of 40-46 for hardness. The handles are of rubberized material, molded in place and tested for 20,000 volts, the purpose of this being to permit the use of these axes in cutting through high tension wires, if necessary.

In additon to its use in U. S. Army bombers, these axes are particularly suitable for use on air fields and as a crash axe for fire departments. The axe is 15¼ inches long and weighs 2½ pounds.

Mine Safety Awarded Army-Navy "E"

Rear Admiral C. H. Woodward, USN (Ret.), of Washington, D. C., Chief of the Incentive Division of the U. S. Navy, was the principal speaker at the award of the Army-Navy "E" to Mine Safety Appliances Company, Pittsburgh, Pa., on September 16. Admiral Woodward presented the "E" pennant. Awarding the "E" pins to M. S. A. employees was Lt. Col. Robert C. Downie, Chief Officer, Pittsburgh Ordnance District. Mr. George H. Deike, company president, accepted the Army-Navy "E" on behalf of M. S. A. employees.

Mine Safety is one of two Pittsburgh concerns to hold both the Army-Navy "E" and the Maritime "M". Only twenty-five companies in the entire country have been awarded both honors. M. S. A. has a four-star Maritime "M".

E. A. Brass Appointed Colonel on Governor's Staff

Edward A. Brass, president of Southern Switch & Signal Co. and the Shops of Edward A. Brass, Shreveport Louisiana, has been appointed a colonel on the staff of Hon. James H. Davis, governor of Louisiana.

Mr. Brass served as city signal engineer when Governor Davis was commissioner of public safety in Shreveport. He has designed and manufactured signalling equipment for more than twenty years, and is an active member of the International Municipal Signal Association.

In 1942, at the request of the war department, Mr. Brass was given a "dura-

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TURN OUT CLOTHING

Our turnout suits are giving excellent satisfaction in most of the large fire departments throughout the U. S. and
THERE MUST BE A REASON WHY SO MANY FIREMEN INSIST ON JANESVILLE QUALITY
NOW AVAILABLE!
We can now supply old type ¾ Felt-lined Firemen's Boots.
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HOSE BRASS GOODS WB LINE THE WOOSTER BRASS Co. WOOSTER, OHIO

BACK THE ATTACK ON FIRE WITH FIRE DEPARTMENT SUPPLIES OF DISTINCTION

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When you specify products bearing the TRUMPET trade mark, you can SAVE and BANK on SAFETY.

tion" leave from these duties so that his entire time might be devoted to managing the ordnance production of his two plants. Supplying the armed forces with different types of precision instruments has represented ninety-five per cent of all manufacturing activity since that time.

Pre-war products, numbering 128, were related to the signalling field. Among these were fire, burglar, police, private and industrial alarm systems and traffic control systems. Though the manufacture of these items is allowed at present on a priority basis only, the companies are scheduling all orders of municipalities to assure quick delivery when restrictions are lifted.

L. C. Barkley Appointed Mechanical Sales Manager of Manhattan Rubber

Littleton C. Barkley, Manager of the New York Office of the Manhattan Rubber Mfg. Division of Raybestos-Manhattan, Inc., has been appointed Sales Manager of the Manhattan Mechanical Rubber Goods Sales Department. Mr. Barkley's appointment was announced by Harry E. Smith, General Manager of the Manhattan Rubber Mfg. Division. For the present Mr. Barkley's office will be located at 120 Broadway, New York City.

McPherson Fire Department Observes Ten Years

The fire department of McPherson, Kans., on September 1 completed ten years of service as a paid fire department.

On August 1, 1934 the department was placed on a partially paid basis when two firemen were employed. A month later, September 1, 1934, Fire Chief H. G. Lindgren came from the Newton, Kans., Fire Department to head the department and another fireman was employed.

Now in the department with Chief Lindgren are the assistant chief, G. D Pierce, two lieutenants, Harry Swick and George Saylor; two firemen, William Kinion and Ralph West, and eight volunteer firemen.

In 1934 it had two fire trucks, one a hose and chemical truck and the other a triple combination truck. The apparatus floor was scarcely large enough for two trucks, and the upstairs had to be used for recreation room, dormitory, dining room and chief's office.

Since then the fire station has been enlarged by a 14-foot addition built on the front, and a triple combination pumper, additional fire hose and other equipment have been added, bringing the department to a recognized standard resulting in the reduction of the fire insurance rate both to residential and business districts.

Fire losses in the four years before the paid department was established were $300,189.38. In the ten years since then, total loss has amounted to $68,-104.03. So far this year, loss has been under $1,000.

Department instruction is held regularly twice a month and includes training in fire fighting, fire prevention, rescue work, life saving, first aid, arson investigation and public service.

The element of time is of first importance in the successful treatment of burns. If a burn is treated within 15 minutes after it occurs, the probability of blister formation is reduced to a minimum. But if time is wasted before proper treatment is started, serious complications and infection may follow.

When using Gebauer's TANNIC SPRAY in the treatment of burns, the factors involving time-loss are eliminated. This preparation is a stable solution of tannic acid ready for immediate use. Packaged in a sturdy amber bottle having an automatic dispensing cap, which permits the projection of the solution in the form of a fine jet stream. Upon application the solvent evaporates rapidly, covering the burn with an evenly applied, dry and flexible film of tannic acid.

Gebauer's TANNIC SPRAY is a practical *first* first-aid treatment for first, second, and small area third degree burns. Write for literature.

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THE *New* WHEAT *Rechargeable Spotlight*

MODEL 158

2500 FOOT BEAM
25000 CANDLE POWER
1000 HOURS OPERATION

Critical Materials Reduced to a Minimum to insure Availability

FEATURES

★ Positive "non-spill" Construction
★ Less expensive Operation than dry cells
★ Free use of Hands. Light carries conveniently on Shoulder Strap
★ Weighs only 92 ozs. complete
★ Simple to Charge and Water No need to take Lamp apart
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WRITE FOR COMPLETE DETAILS

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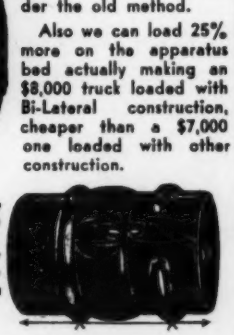
MARLBORO, MASSACHUSETTS, U.S.A.

DOUBLE SERVICE *with* BI-LATERAL

This installation shows the position of the rubber lining in BI-LATERAL FIRE HOSE when held in a flattened position between calls into service. This is why we can save a city one replacement, because this hose will give double service of any hose constructed under the old method.

Also we can load 25% more on the apparatus bed actually making an $8,000 truck loaded with Bi-Lateral construction, cheaper than a $7,000 one loaded with other construction.

Here's the new DROP-FORGED rocker lug coupling (not cast bronze) with the swivel protection feature.



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WHO TURNED ON THE FOG?

Over 10% of *all* advertisers in the big Convention issue of Fire Engineering featured fog fire fighting equipment. Such widespread advocacy of a single technique proves the industry's enthusiastic acceptance of fog as a major advance in the science of fire fighting.

Elkhart's famous Mystery Nozzle has played a major role in the swing to fog. Introduced in 1937, it was the first fire department nozzle to offer varying degrees of conical fog — ***plus*** every other type of stream — in one nozzle. Because of the completeness of its stream selection, the Mystery is effective on all types of fires, at all times and under all conditions. We believe that it is the finest all-purpose nozzle manufactured today.

Elkhart perfected the Mystery Nozzle to pioneer the use of fog because this technique represented an outstanding improvement in fire-fighting methods. Elkhart is noted not only for the quality of its products, but for the continual ***development*** of products that best serve the interests of the industry.

Elkhart

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WHEN ALARMS CLANG!

IT'S AN EMERGENCY
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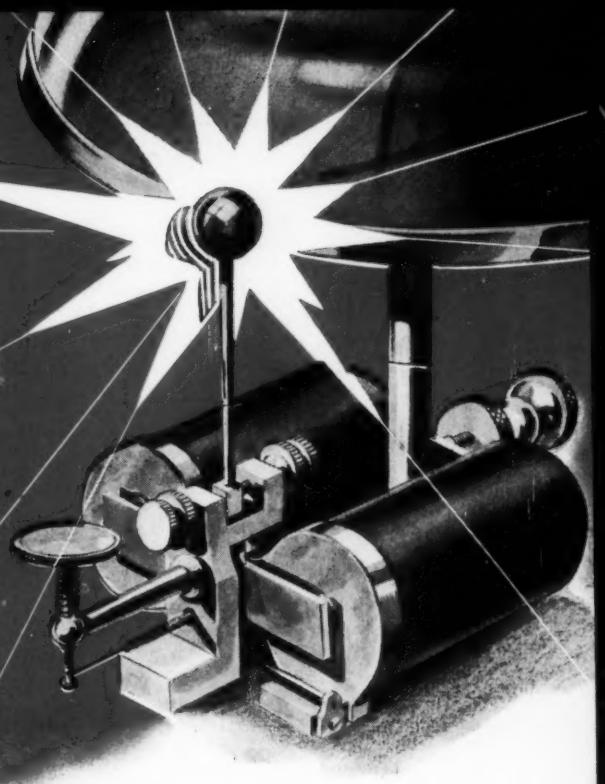

Seconds count... power counts... safety counts when fires rage. And the reason FWD fire apparatus counts so big in successful fire fighting is that every FWD has plenty of *reserve* speed, power, traction and safety to meet any emergency in getting to the fire and doing its vital part in the fighting business. No grade is too steep, no mud or snow too deep, no road too slippery, no going too tough for the dependable combination of speed - power - traction - safety which FWDs' offer. Their fire-fighting records in cities and towns from coast to coast warrant your confidence in the complete line...all types and sizes, with rotary or centrifugal pumpers, triple or quadruple combinations, aerials, etc.... and POWER on All-wheels! Write for literature.

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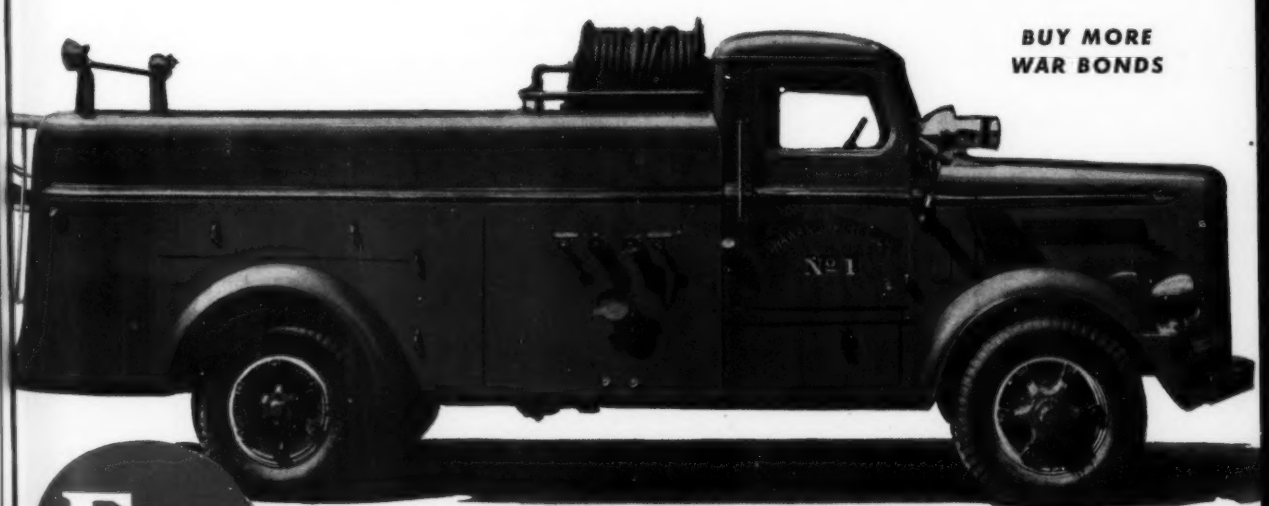

The City of Shawano, Wis. enjoys Fire Protection from this FWD Model KHR, 750 GPM 2-stage centrifugal pumper and chemical fire fighter.

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FOUR-WHEEL-DRIVE *Fire Apparatus*

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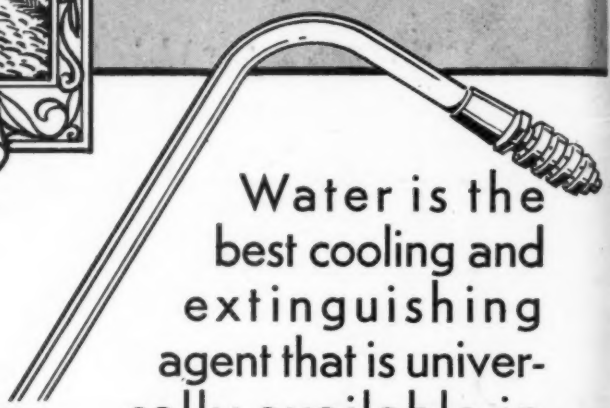
LIMIT YOURSELF WITH OLD-FASHIONED METHODS...



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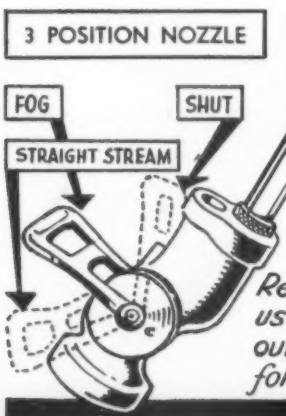
Water is the best cooling and extinguishing agent that is universally available in quantities. The extinguishing effectiveness of water is increased tenfold when it is atomized in the form of fog. The new and modern method of fighting fire with fog is now possible by using Fognozl and Fognozl applicators with normal pumping equipment.

Available in sizes for chemical and regulation fire hose



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